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The Journal

OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89
NUMBER 1
JANUARY 1993
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SPECIAL ISSUE: PIONEER WOMEN PHYSICIANS IN SOUTH CAROLINA

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President's Page

THE PARTY IS OVER

Airline pilots, auto workers, CEOs of corporations, plus many other Americans are being asked to take less pay. Physicians are also being included. The many excesses in medical care costs need to be purged out of the system. IBM, AT&T, Sears are all restructuring. The entire medical care system is being restructured.

20% I. **PHYSICIANS** are responsible for 18 to 20 percent of the health care dollar. Is it fair and reasonable for neurosurgeons and spine surgeons to charge an additional $6,000 to a patient if spinal instrumentation is performed along with the laminectomy? Is it fair and reasonable for radiologists to charge as much to interpret a CT of the brain as they did for the pneumoencephalogram? Is it fair and reasonable for the urologist to charge as much for a lithotripsy procedure as they did for the ureterolithotomy? You may add your own examples.

35% **II. HOSPITALS** are responsible for 32 to 35 percent of the health care dollar. Is it fair and reasonable for hospitals to charge $3.00/aspirin tablet; $4,000 for a plate and two screws for an internal fixation of an ankle fracture? What about the mark-up on pharmaceuticals? Repeal COST-SHIFTING.

20% **III. MEDICAL SUPPLY COMPANIES, PHARMACEUTICAL COMPANIES, NURSING HOMES** are responsible for 20 percent of the health care dollar. Is it fair and reasonable to charge $160,000 for an operating room microscope? What about the high costs of the newer generation of antibiotics? Let the nursing homes take care of themselves.

25% **IV. DEFENSIVE MEDICINE plus ADMINISTRATIVE COSTS** are responsible for 23 to 25 percent of the health care dollar. We need less lawyer controlled legislatures and meaningful professional liability reform. There are 1500 different groups or companies between the patient on one side nd hospital on the other. Each have their own form. Can't that be simplified? What about the never-ending new Medicare, Medicaid, Champus regulations? Can't they be simplified?

If we as physicians understand the above and do something about it **OURSELVES,** through our well-run county, state and national medical organizations we would not need federal intervention, managed care or any of the other well-meaning but basically ineffective and expensive schemes.

Let us work to preserve the fee for service approach to medical care. Let us continue to be the best advocate for our patients and work to preserve the freedom of choice for our patients to select the physician and hospital of their choice.

Bartolo Barone M.D.

Bartolo M. Baroné, M. D.
President

The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89
JANUARY 1993
NUMBER 1

Contents

Special Issue: South Carolina's Pioneer Women Doctors

7 **Introduction**
W. Curtis Worthington, Jr., M. D.

9 **Psychiatrist and Humanitarian Sarah Campbell Allan (1861-1954): South Carolina's First Licensed Woman Physician**
W. Curtis Worthington, Jr., M. D.

15 **Dr. Lucy Hughes Brown (1863-1911) A Pioneer African-American Physician**
Maxine Smith Martin, ED. D.

20 **Portrait of a Woman Doctor: Love Rosa Hirschmann Gantt**
"Blackwellian" or "Jacobian"?
Daniel Tobias Barkowitz, Elizabeth Young Newsom

31 **Jane Bruce Guignard, M. D.: 1876-1963**
Jane Guignard Curry

35 **Hilla Sheriff, M. D.: 1903-1988 First Lady of Public Health**
Henry Heins, M. D., Donna H. Bryan

41 **"That Crazy Anne Austin"**
Anne Austin Young, M. D. 1902-1989
James G. Ward, Jr., M. D.

49 **Four Additional Trailblazers of Interest**
W. Curtis Worthington, M. D.

Special Article

45 **Report of the Interim Meeting of the AMA**
Walter J. Roberts, Jr., M. D.

Editorial

52 **South Carolina Women in Medical School, 1892-1992**
W. Curtis Worthington, Jr., M. D.

Features

57 **Auxiliary Page**
56 **On The Cover**
3 **President's Page**

Association

59 **Gray Matter**
27 **SCMA Newsletter**

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The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89 JANUARY 1993 NUMBER 1

SPECIAL ISSUE: SOUTH CAROLINA'S PIONEER WOMEN DOCTORS

INTRODUCTION

W. CURTIS WORTHINGTON, JR., M. D.*

The temptation to look for similarities among the six principals in this issue of *The Journal* is irresistible. What can one find in the witty and adventuresome Sarah Allan, the shrewd and dedicated Bruce Guignard, the sensitive and kindly Lucy Brown, the vivacious and strong-willed Hilla Sheriff, the tenacious and devout Anne Young, and the hospitable and altruistic Rosa Gantt that forms a common thread that led these women into a profession where they were neither expected, nor, for the most part, wanted by other practicing members?

They formed, in fact, a rather diverse group and in some cases contrasted starkly with each other. For example, Sarah Allan was never without substantial independent means over her long lifetime while Lucy Brown was born into a poor family and probably never enjoyed a large income. Guignard, Sheriff, Young and Gantt came from economically middle class backgrounds but were not entirely unaffected by some of the serious economic realities which existed at times in their lives. Anne Young and Sarah Allan showed equally strong Presbyterian religious convictions but came from backgrounds which were markedly different regionally and probably economically as well. They are also in great contrast in the length of their medical careers; Allan worked only 11 years as a physician compared to Young's 71! Hilla Sheriff and Rosa Gantt shared in addressing problems of public health and, in fact, worked together on at least one project. Anne Young and Bruce Guignard both have records of very large numbers of deliveries with excellent reputations for success. Their careers were probably as similar in a general way as any two in the group. Lucy Brown is unique in this group as the first black female physician in Charleston and one of first two (along with Matilda Evans) black female physicians in South Carolina.

Four of the six were married (Brown, Gantt, Sheriff and Young) but only Young had a child (a grandson and grandson-in-law are physicians).

What then do the individuals in this distinguished group of pioneering physicians have in common? There are several things. The first is longevity. Lucy Brown is the only one who can be said to have died young and Gantt's death at 60 was probably not far below the normal life expectancy in 1935. The other four enjoyed a productive and, to all appearances, enjoyable old age. Young lived to be 97; Allan 93; Guignard 87; and Sheriff 85. They total 362 years of life for an average of 90.5 years! If Brown and Gantt are included, the total is 407 years with an average of 78 years. This writer had the privilege of knowing only two of these physicians personally, Sarah Allan and Hilla Sheriff. In quite different ways they were delightful and entertaining company even at an advanced age.

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*The Waring Historical Library, 171 Ashley Avenue, Charleston, SC 29425.

Another common theme in their lives was an early ambition to become doctors, sometimes extending back to their pre-adolescent years. This ambition was clearly supported by the families of Allan, Guignard, Young, and Sheriff. Both Brown and Gantt have a history of caring for younger children when they themselves were young which may have sown the seeds of interest in a nurturing profession.

Further, there are three qualities evident in the lives of all of these remarkable women. The first was dedication to the public good. This is manifest in the many activities that they carried on which were either unrelated directly to their professional lives or were only tangentially so. The second was their love of their work. It shows through in almost every aspect of their lives about which we have information. The third was a determination to succeed, and this they did in full measure.

These six women of diverse backgrounds and talents may be viewed as the prophets for the large scale movement of women into the medical profession which began 20 years ago in South Carolina. I cannot imagine a more worthy group for that distinction! ❒

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PSYCHIATRIST AND HUMANITARIAN SARAH CAMPBELL ALLAN (1861-1954): SOUTH CAROLINA'S FIRST LICENSED WOMAN PHYSICIAN

W. CURTIS WORTHINGTON, M. D.*

The year was 1890. In a large four-story mansion on Rutledge Avenue in Charleston a 29-year-old woman of impeccable Victorian upbringing, substantial means, and unquestioned privilege pondered once again her role in life and once again concluded that she wanted to be a physician. As shocking as this might have been to her friends and some of her family, it is not surprising that her strongly religious, Scottish Presbyterian, background drew her to a vocation of service emanating from a strong religious faith. On a more pragmatic level it is also quite probable that a young woman of superior intelligence, ambition and energy felt strongly the need to do more with her life than society called for in the last decade of the nineteenth century from an unmarried woman, even one well placed financially and otherwise.

But what to do? What the roots for this unusual aspiration for a woman were we do not know. However, they were strong enough for her to take the unheard of step of applying to the Medical College of the State of South Carolina for admission. She was turned down; a matter of some moderate resentment still harbored by her sister some 60 years later. She then briefly considered studying nursing. However her father, James Allan, a tough-minded Scot, who had come to America as a penniless boy and become a highly successful jeweler and silversmith, strongly supported her desire to become a physician and encouraged her to pursue that goal through any avenue available to her. Luckily, The South Carolina College for Women had just opened in Columbia and with great foresight that institution offered a "preliminary medical course for women" which had been developed to enable women to enter medical school. Sarah Allan enrolled in 1890 as a special student and after completing the necessary studies entered the Women's College of The New York Infirmary in 1891.[1,2,3] The Dean of that college and one of Dr. Allan's professors was Dr. Emily Blackwell, pioneering woman physician and sister of Dr. Elizabeth Blackwell, first female physician gradu-

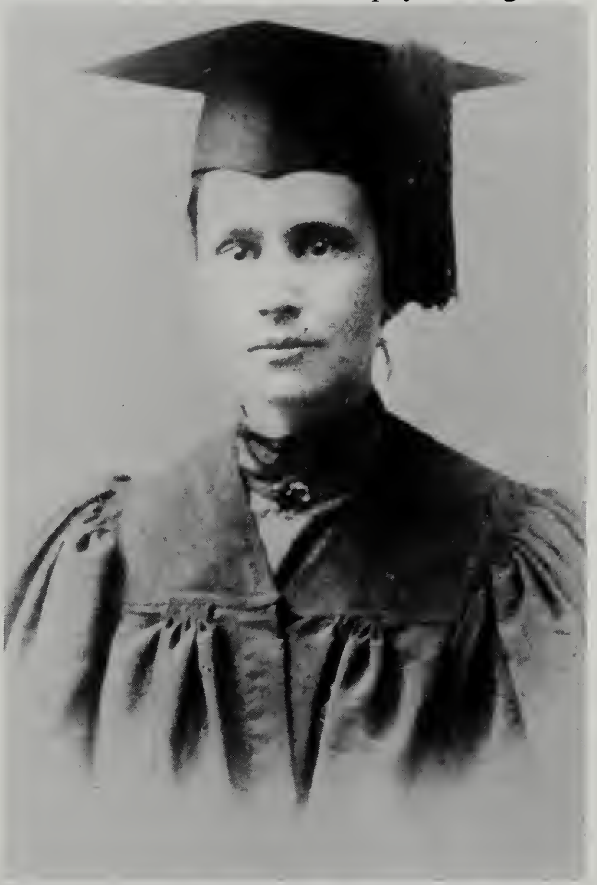


Figure 1: Dr. Sarah Campbell Allan in her cap and gown upon her graduation from the Women's Medical College of New York Infirmary.

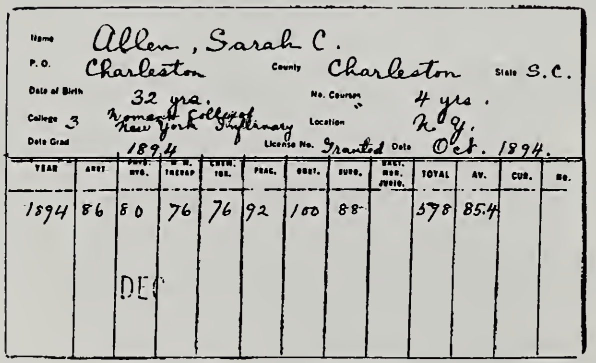
---

*171 Ashley Avenue, Charleston, SC 29425.

ate in the United States. Dr. Allan graduated in 1894.[4]

When she returned to South Carolina to take the newly instituted licensure exam of the State Board of Medical Examiners it was of considerable satisfaction to her that she attained the highest average on the first sitting of the "State Board" and that she made 100 percent on one section (obstetrics).[5] This latter achievement did not influence her choice of practice however. After about a year of postgraduate work at the Johns Hopkins Hospital she accepted a position on the staff of the South Carolina Lunatic Asylum which has evolved over the years into the South Carolina Department of Mental Health with its multiplicity of hospitals and associated activities. She began her work there on October 1, 1895.[6] She was offered the position by the director, Dr. John W. Babcock (still remembered for his pioneer work on pellagra), and appointed by Governor John Gary Evans in the face of strong pressure to make a more political appointment. The governor was praised in the press for his courage in selecting a long-needed woman physician to attend the female wards.[7]

Dr. Allan remained on the staff of the South Carolina Hospital For The Insane (so named soon after Dr. Allan's appointment) until May 1st of 1907 when she returned to Charleston to take care of her father whose health was failing.



Name Allen, Sarah C.
P.O. Charleston County Charleston State S.C.
Date of Birth 32 yrs. No. Course 4 yrs.
College 3 Woman's College of New York Infirmary Location " N. Y.
Date Grad 1894 License No. Granted Date Oct. 1894.

YEAR	ANAT.	PHYS. HYG.	M. M. THERAP.	CHEM. TOX.	PRAC.	OBST.	SURG.	BACT. MED. JURIS.	TOTAL	AV.	CUR.	NO.
1894	86	80	76	76	92	100	88		578	85.4		
		DEC										

Figure 2: Sarah Allan's medical licensing examination record from the Records of the State Board of Medical Examiners, October 1894, (South Carolina Dept. of Archives and History, Columbia, SC).

It is clear that Dr. Allan's choice in her type of practice hinged on the degree of challenge and interest, since she was offered a job at Converse College as staff physician to the all female student body, a post which almost certainly would have been less challenging and less onerous in every respect than the job that she took.[8]

She kept a diary for a few months in 1900 and for the most part commented on the patients who were the most seriously ill physically.[9] This diary provides a small glimpse into the state of medical knowledge at the turn of the century and the ability of society to supply it in an institutional setting. During the short period covered by the diary (January 1-May 16, 1900) there were, in addition to references of such transitory ills as colds, sore throats and "the grippe," frequent references to patients with "generalized TB" and "consumption" and a high incidence of superficial infections, particularly boils and abscesses which required extensive treatment. In mid-February, Dr. Allan heard that the city was "full of roseola" and in a few weeks it had swept through the hospital, affecting nurses and patients alike. There were two smallpox scares during the first weeks of April which occasioned by numerous vaccinations of patients and staff. It appears that neither patient had the disease since nothing is remarked after two brief mentions of suspicious symptoms and the quarantine of one patient. There were 17 deaths among Dr. Allan's patients between January 1 and May 15, but she makes comments on cause in only four: two with definite diagnoses of tuberculosis and one with a terminal high temperature who she believed had erysipelas. A fourth she had suspected of having carcinoma of the stomach but there was no autopsy. This is the only death in which she mentions an autopsy, even in the negative sense. One of the dead she notes as having had general paralysis.

The patient load was quite heavy. Dr. Allan reports that on one day she saw 301 patients in her section by noon. On some occasions in Dr. Babcock's absence she had additional patients. It is clear, even from her brief notes, that her primary responsibility was the *physical* care of the patients assigned to her. The average census for the 1900 Annual Report was 1042 and she observed on January 16th that 1016 patients, 570 of them female, were seriously overcrowding the facilities.

There are very few bright spots in patient outcomes in her notes but occasionally she does point out that someone has been discharged apparently "cured."

Physical conditions of the buildings in which some patients were housed do not seem to have been very good. On one occasion a rain storm flooded rooms on the second and third floors of her building, and on one January morning urine was found frozen in one patient area. This note was accompanied by a wry comment that there had been neglect of patients by a staff member. From some time before March 15th to April 6th there were no lights.

The environment was not a particularly healthy one for the staff. This was clearly demonstrated by the frequent febrile illnesses of the nurses and "Dr. R's" positive sputum for tubercle bacilli: "not swarming, but abundant."

That there was not total misery in the institution, however, is also suggested in Dr. Allan's rather spare notes. She speaks of walks in the country with the patients and "some entertainment from the gramophone from Mr. Gibbes." Not the least inconvenience of the failure of the lights was the necessity for canceling the patient's (weekly?) dance which was evidently greatly enjoyed by them.

Dr. Allan's duties at the hospital were not confined to patient care. She taught both Anatomy and Physiology to the students in the nursing program newly instituted by Dr. Babcock and was not particularly happy with their performance in either discipline. She also mentions preparing a paper on iron in cooperation with "Dr. E." which contained a great deal of material but little originality.

We can only speculate on how Dr. Allan may have felt about leaving her position at the State Hospital. Did she retire simply because the obligation to her father took priority over her career; or had she become weary of the endless array of patients with less than hopeful prognoses, both in terms of their physical and mental condition? It is hardly credible that the idea of "burn-out" by whatever Edwardian term it might have been known would have occurred to her. Her demonstrated strength of character, to say nothing of physical stamina and intellectual resources, certainly precludes such an idea. For her to have sought a life of leisure and relative inactivity would be equally as surprising.

James Allan died on May 1, 1908, exactly on year after Dr. Allan returned to Charleston. Why then did she not return to the position that she had held in Columbia after so short a time? Notes left by her sister, Amey N. Allan, indicate clearly that she loved her work, took great satisfaction in the care she was able to give, and found it "a joy" to see patients well enough to leave.[8] Salary could not have been a consideration. At one point when the female patient load rose to over 500 she asked for an assistant. Dr. Babcock was unable to get funds budgeted for an assistant and offered her an increase in stipend which she declined. She declined to accept a fee for the occasional urgent referral that she received after she returned to Charleston. No doubt fees and salary meant little to her, since she had independent means throughout her life.

The barest hint of Dr. Allan's thinking occurs in Amey Allan's notes. She writes that "when called upon by Charleston M.D.'s in psychiatric cases [sister] never sent a bill. Insisted that her medical career was ended. No time now for study."[8] What "no time" meant we can only guess. Perhaps the opportunities for continuing education in the state at that time were so limited that she would have had to go to a major medical center in the northeast for a program that would enable her to meet her own standards, and at age 46 she may not have wished to make that effort.

She may have felt further that the pace of advance and change in medicine was so fast that it would be difficult to catch up under any circumstances. She also may have felt that her declining years were not far ahead of her. At age 46 in 1908 she could not have foreseen that her life was only half over, that serious decline was far in the future and at least in the intellectual sense would never become particularly severe.

For the remainder of her life Sarah Allan devoted herself and her resources to a variety of church related, community and private initiatives in the service of others.[1,2,3]

Her Scottish Presbyterian background has already been mentioned. She was a lifelong member of the Second Presbyterian Church in Charleston and contributed extensively its work. She was a long time member of the Woman's Auxiliary (now Women of the Church) and president of the Women's Mission, the organization that preceded it. She was president of the Argyle Louden Campbell Home for Presbyterian and Huguenot Women. She taught Sunday school and was a member of the church's Education Society which assisted needy students in financing their education. Dr. Allan and her sister Amey maintained a summer home, "Bonnie Brae," near Black Mountain, North Carolina; and her interest in supporting the education of young people who could not afford it extended to contributions for the support of several mission schools in the region. Of particular interest was Scott Brewer, a student at Highlands School, a Presbyterian mission school in Kentucky. Dr. Allan's support enabled this young man to finish high school and her well-placed efforts resulted in his going on to graduate not only from college but from Princeton Theological Seminary. He had an outstanding career as a minister, a successful marriage, and saw military service as a chaplain in World War II. Brewer and Dr. Allan never met, but one of her nephews was able to locate him a few years ago and he was still grateful to her.

Dr. Allan was just as active in community affairs as she was in church work. She was a board member and president of the YWCA and a major influence in the construction of their building. She was one of the first directors of the Children's Playground Commission. Her other activities included The Charleston Civic Club, The Charleston Bible Society, The Charleston Natural History Society, The University Club, and two additional independent charities: The Ladies Fuel Society which provided fuel for the needy and the Ladies Benevolent Society which supplied medicines and nurses.[2]

Dr. Allan was fond of travel; and she and her sister made extensive trips to Europe including, on one occasion, renting a cottage in England for an extended period of time.[10] As previously noted, she and her sister had a summer cottage in the North Carolina mountains and she spent a considerable amount of time there in the summer to escape the Charleston heat and humidity. She lived in the Rutledge Avenue house after the death of her father; and later with her sisters, Amey and Jessie Allan McDermid, in a raised cottage at 19 Gadsden Street until the end of her life. It is clear that with her travels, a low-country and mountain residence, and her enormous amount of volunteer work her life must have been as full in its second half as in the first with the possible exception of the approximately 15 years of medical study and professional work at the State Hospital.

We have a clear assessment of Sarah Allan's role and activities as a physician at the turn of the century. What can we say about her as a person, from the available evidence, and from the (mostly casual) reminiscences of her? We will start with intelligent, determined, and tough.

Intelligent? She was capable of taking full advantage of whatever level of education was available to a woman in Charleston at the time and able to master whatever was required to enter medical school after having been out of school for 10 to 15 years. She completed the medical curriculum and demonstrated her mastery of it by her performance on the state board examination.

Determined? On approaching middle age she undertook to do what no other South Carolina woman had ever done against the prevailing prejudice against women in the medical profession. And indeed, in the face of rebuff from a medical school only a few blocks away from her home.

Tough? She prevailed for 11 years in a hospital for chronic patients with some of the worst, most prevalent and serious physical illnesses for which there was little in the way of effective treatment, superimposed on the worst of mental states for which there was even less. Not only did she prevail but she was proud and happy to be able to serve to the best of her considerable ability.

Her recreational activities included chess, painting, walking and "driving." Driving is listed, cryptically, in a 1914 biography in *Woman's Who's Who in America* without elaboration. The mental picture of Dr. Allan in her 50's driving either the primitive automobile of her day or her own horse drawn rig stretches the imagination. A reasonable speculation is that she was driven around the city and countryside by a proper coachman or chauffeur.

What about gentler qualities? Her generosity of both her time and money is apparent from a glance at her many activities over the 46 years of her retirement from medicine. These, taken together with her early desire to look after people in trouble and her devotion to the patients at the State Hospital, strongly suggest a warm and caring person. How warm she may have been in her personal relations with relatives and friends is more difficult to evaluate. Her own generation is, of course, gone, the one that followed almost gone and the third is only a few years behind, thus thinning the thread of family tradition to what little can be found written down or in the dimming memories of those who only knew her in her old age. A surviving nephew recalls that Dr. Allan was warmer than her more reserved and religious sister Amey. It appears that she had a fun-loving side. One of her grandnephews as a boy was admonished before a visit to the house at 19 Gadsden street not to do anything to upset Aunt Sarah. He was standing quietly, no doubt meditating on the dignity of the elderly ladies whose guest he was, when Dr. Allan emerged from a concealed vantage point with a loud "Boo!" and chased him merrily down the hall. It is clear that she was regarded with respect, admiration, and affection.[1]

In her late 80's and 90's she was an impressive if diminutive figure who assessed you with a penetrating but not unkindly gaze usually followed by a crisp comment on something of current interest to her. She had always been a voracious reader and old age in no way decreased this appetite. She read several novels a week and pursued French history in the French language. She obtained her books by frequent visits to the county library which was four blocks and three busy thoroughfares away unescorted (in her last years when she could get away with it) crossing Gadsden Street, Ashley Avenue, and Rutledge Avenue with no regard for traffic whatsoever. According to her nephew's account, her comment when admonished on this point was that nobody would run down an old lady. However, there are those who suspect that she fully believed that the Lord would take her when He was good and ready and that in the meantime she had nothing to worry about.

Although only a few anecdotes survive, she is credited with a wicked sense of humor. When asked by a new acquaintance an innocent question about her earlier years, the acquaintance was informed that she had spent 12 years of her life in a mental institution. She probably never disabused the person of the erroneous impression left by the comment. This probably happened more than once. As noted above, she was closely associated with a home for elderly ladies, one of whom persisted in mistaking her for one of her sisters. The lady would ask "and how is Dr. Allan?" Dr. Allan finally replied "Oh, she died last summer and you didn't even send flowers." thereby shocking the lady *and* her sisters when she returned home with the story. On another occasion she, her sister, and a niece managed to lock themselves out of their house on Gadsden Street. Dr. Allan skillfully picked the lock with a hair pin observing that she had learned some very practical skills in her job in Columbia.[1,2]

Dr. Sarah Campbell Allan. The first of many outstanding women who have added luster to South Carolina's long tradition of devotion to medical practice for the sake of the well being of its citizens. Her personal qualities and professional abilities represent a tradition, established early on, which is the heritage of the increasing number of women entering medicine.

Dr. Allan was taking her afternoon stroll on the porch of her home on the 24th of February 1954 when she remarked that she was tired and would go in to rest. She died quietly on her bed shortly afterward.[2] It is easy to believe that such a quiet and dignified exit might have been the reward of the Almighty for a lifetime of obedience to the Biblical injunction to "Love thy neighbor as thyself." ❐

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DR. LUCY HUGHES BROWN (1863-1911) A PIONEER AFRICAN-AMERICAN PHYSICIAN

MAXINE SMITH MARTIN, ED. D.*

Dr. Lucy Hughes Brown is most notably recognized for her role as one of several physicians responsible for the founding of the Cannon Street Hospital and Training School for Nurses, the predecessor of McClennan-Banks Hospital in Charleston. Finding much other information about her was like going on a scavenger hunt. This brief article is an attempt to address her early beginnings, family background, educational training, and recognition, or lack thereof, as the first Black female physician licensed in South Carolina.

Lucy Hughes was born in North Carolina in 1863. She graduated from Scotia Seminary, Concord, North Carolina, in 1885. In 1889 she married the Rev. Henry Brown. She entered the Woman's Medical College of Pennsylvania in 1890 and was graduated in 1894.[1]

In 1896, Dr. Brown went to Charleston to begin the practice of medicine. A temporary license was given her until a meeting of the State Board the following year. Dr. Brown's records at the Woman's Medical College indicate that she was from Statesville, North Carolina. Her address previous to commencing her education at Woman's Medical College was Biddle University in Charlotte, North Carolina where her husband was on the faculty. In 1912, nearly a year after her death, the 37th Annual Meeting of the Woman's Medical College Alumnae Association paid tribute to her as evidenced in the minutes of that meeting. This tribute, or rather listing of her accomplishments, indicated that she had practiced medicine in North Carolina before moving to Charleston. The listing noted that in 1904 her health began to fail and she was forced to retire from her active work. She apparently was ill for the next seven years before her death on June 26, 1911. She was said to have been "the only colored woman physician in South Carolina."**

The major discrepancy I found in researching Dr. Brown's medical contributions was in whether she was the first female physician in South Carolina, or whether she was the first Black female physician in South Carolina. I was surprised to find that this discrepancy still had supporters on both sides of the issue. Vivian Ovelton Sammons in *Blacks in Science and Medicine* (1990) cited Dr. Brown as "born in North Carolina, 1863; M.D., Woman's Medical College of Pennsylvania, 1894; First black woman physician in Charleston, South Carolina." She is also noted by Ms. Sammons as responsible for establishing "a Hospital and Training School in 1890 in Charleston with several other blacks led by Alonzo C. McClellan (should be McClennan)."[2]

In contrast to Ms. Sammons' work, Bettna Aptheker, in *Woman's Legacy: Essays on Race, Sex, and Class in American History* (1982) credits Matilda E. Evans with being the first woman licensed to practice medicine in South Carolina and goes on to say that "Black women were the first women of any race to practice medicine in four Southern states."[3] However, South Carolina Licensure Records indicate that Sarah C. Allan, M. D., was licensed in South Carolina in 1894. When she further stated that three of the four were graduates of the Woman's College in Philadelphia, I just knew she was talking about Dr. Brown.

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**Later evidence indicates that Dr. Brown was not the only Black female physician in South Carolina. Matilda Evans, M. D., had established a practice in Columbia in 1897.

It is at this point in her discussion that Aptheker gives the names of these four whom she believed to be first in their respective states: (1) Alabama – Dr. Halle Tanner Dillon, (2) Mississippi – Dr. Verina Morton-Jones, (3) South Carolina – Dr. Matilda A. Evans, and (4) Virginia – Dr. Sarah G. Jones, a graduate of Howard Medical College (now known as Howard University).[3]

To my utter amazement, I found no mention of Lucy Hughes Brown in Dr. Sara Brown's chapter on "Colored Women Physicians" published in the *Southern Workman* of 1923. If Dr. Lucy Hughes Brown died in 1911, surely she should have been known and properly recognized in *Southern Workman.* Dr. Sara Brown seems to focus to a large degree on female black physicians who came from very prominent families. For example, she cites the contributions of Dr. Caroline Virginia Anderson, a graduate of the Woman's Medical College in Philadelphia in 1878, but does not mention Lucy Hughes Brown who graduated in 1894.

Dr. Sara Brown noted that Dr. Anderson had been refused admission to the New England Hospital for Women and Children because of her color, but that she was later admitted there as an intern. Dr. Anderson married the Rev. Matthew Anderson, founder of the Berean Training School, enjoyed an active practice for over 30 years in Philadelphia, and died in June of 1919. Dr. Anderson, according to Brown, was the founder of the Philadelphia YWCA for colored women and an ardent temperance worker most of her life.[4]

As I approached Dr. Sara Brown's listing of "colored women physicians," I grew more and more excited, anticipating what might be a real revelation. She cites two "colored women" in South Carolina, one a graduate of Howard, the other from the Woman's Medical College in Philadelphia. I'm very disappointed to report that these two women were not named. Brown simply says "...the first woman to pass the Medical Board in South Carolina was "colored." (Surely, she must have been citing our very talented, versatile Dr. Lucy Hughes Brown.)

Dr. Sara Brown also refers to the same three other southern states that were referenced by Aptheker earlier in this article—Alabama, Mississippi, and Virginia. This was also done without naming the physicians!

What do we know of Dr. Lucy Hughes Brown's family background and early educational training? In L.A. Scruggs' *Women of Distinction: Remarkable in Works and Invincible in Character* (1893), he writes of Lucy Hughes' humble beginnings. He describes her as "among our strong, resolute young women who was born of poor parents in the town of Mebanesville, North Carolina. " Scruggs continues that young Lucy had little opportunity to attend school because her mother died while she was still young and she was left with the responsibility for the care of seven brothers and sisters.[5]

Not only do we learn from Scruggs that Dr. Brown pursued her studies at home, but we also learn that she advanced to the level in her education sufficient so that she could teach school at an early age. She taught school for four years, but it is not clear where she taught. Scruggs gives us other historical tidbits about Dr. Brown, some of which have been revealed earlier. In 1881 she enrolled at Scotia Seminary at Concord, North Carolina from which she graduated in 1885; in 1889 she was married to the Rev. David Brown, a graduate of Biddle University at Charlotte, North Carolina, and in 1890 she matriculated in the Woman's Medical College of Philadelphia.[5]

In the preface of his remarks about Dr. Brown, Scruggs indicates that he had written about the "onward march of progress...of the Afro-American people." It was interesting to note this description of Dr. Brown as a woman of distinction in a book dated in 1893, yet to discover such discrepancies in later years about whether she was the first Black female doctor or the first female doctor in South Carolina.

I also learned in a letter from Dr. Brown's files in the Waring Historical Library at the Medical University of South Carolina (MUSC) that her husband taught at Biddle Memorial Institute which was later called Johnson C. Smith University.[6] Ms. Gilmore credits Dr. Brown as being "the first African-American woman to pass the North Carolina medical exam." In 1894 only three other women had passed, all white, says Gilmore.

While examining material on Brown's educational training, it was also very interesting to note that Scotia Seminary was an all girls' school. According to L.A. Scruggs, in his *Women of Distinction*, Scotia "aims to combine the most effective way, industry with the culture of the mind and heart."[5] Scotia had two lines of work in mind for its students: (1) teaching and (2) homemaking. In the following excerpt, we learn that Scotia graduates were expected to have a low-profile in the community:

> The entire industrial system has this end in view—to prepare the student to be an ideal housekeeper; while the students also associate with the teachers, who are of high culture and refinement and piety, with the view to add to their culture of heart, without the best housekeeper can never make an ideal home. It is in this way the friends of Scotia account for the fact that their graduates have not become conspicuous social leaders or in public life. As queens of the house many of them have done well. Many of the graduates of Scotia are the faithful wives of noted presidents and professors in many of our best colleges and universities.[5]

One of the more interesting documents to review on the life of Dr. Brown was an article published by the *News and Courier*. The article featured information on the findings of a former MUSC librarian, Mrs. Sophire Wilson. Mrs. Wilson credits Dr. Brown as being "the first woman doctor in Charleston and the first black female doctor in the state."[7]

The article, entitled, "Librarian Finds First Woman Doctor," further noted that "I had always been taught that the first black doctor in the state was Dr. Matilda A. Evans who graduated from medical school in 1897. But by the time she graduated, Dr. Brown was already practicing." Mrs. Wilson indicated that "she (Brown) was instrumental in founding the Cannon St. Hospital and Training School for Nurses, the predecessor of McClennan-Banks Hospital which was located at 135 Cannon Street." The school was established in 1897 and torn down when the newer facility was built.[7]

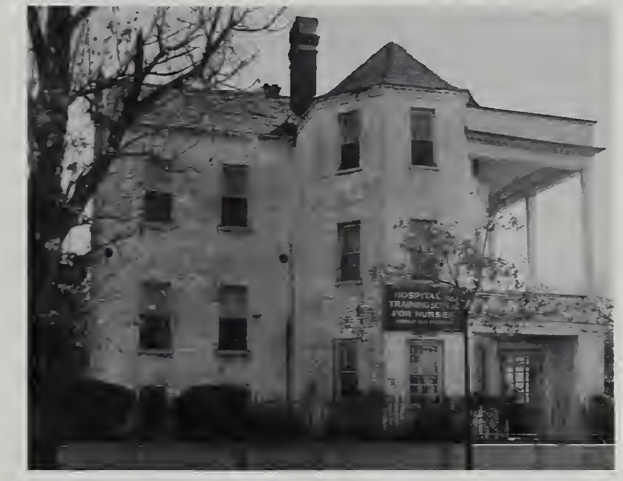
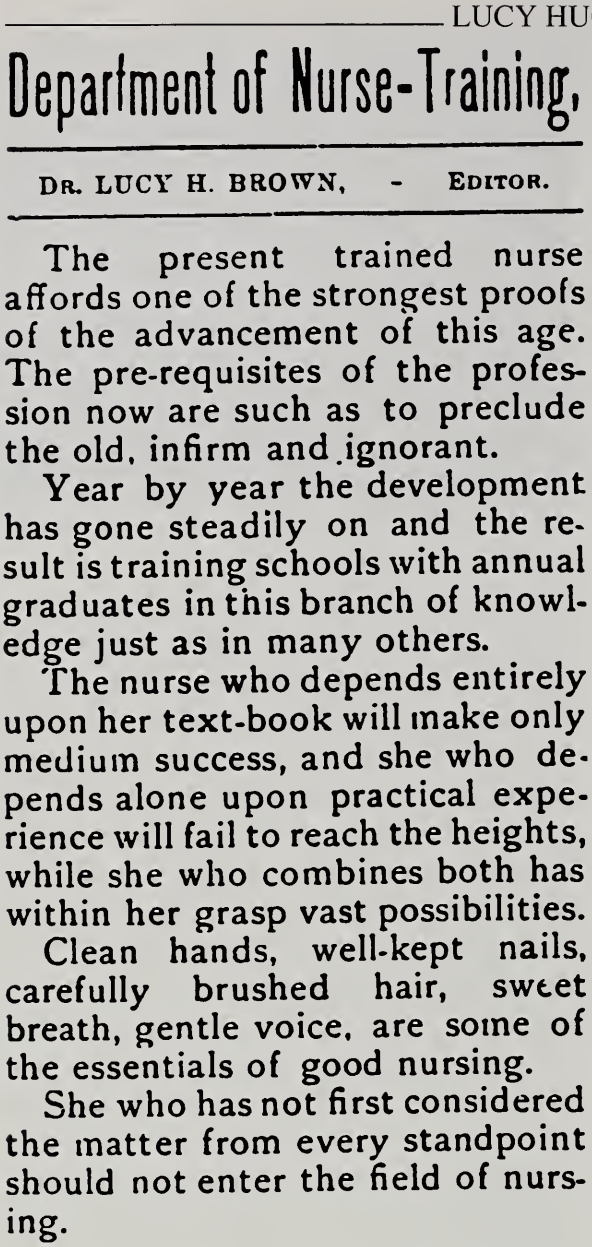


Figure 1. The Cannon Street Hospital and Training School for Nurses.

Reading that at the Waring Historical Library, Mrs. Wilson had consulted copies of *The Hospital Herald*, a monthly journal devoted to hospital work, nurse training, domestic and public hygiene, I became curious about *Herald*. I was able to review several editions at the Waring Library. Mrs. Wilson had indicated that the journal gave insight into Dr. Brown's character. *The Hospital Herald* was a delightful publication. In addition to being resourceful, it was also informative.

Dr. Brown was known for her descriptions of what made the perfect nurse. As an editor of *The Hospital Herald*, she took the opportunity to write about the qualities of the successful nurse which were combinations of common sense guidelines and textbook knowledge.[8]

In a highly complex society, with many minds focused on moving up the corporate ladder, we've lost touch with the more simplistic version of the way it used to be, and



Department of Nurse-Training.

Dr. LUCY H. BROWN, - Editor.

The present trained nurse affords one of the strongest proofs of the advancement of this age. The pre-requisites of the profession now are such as to preclude the old, infirm and ignorant.

Year by year the development has gone steadily on and the result is training schools with annual graduates in this branch of knowledge just as in many others.

The nurse who depends entirely upon her text-book will make only medium success, and she who depends alone upon practical experience will fail to reach the heights, while she who combines both has within her grasp vast possibilities.

Clean hands, well-kept nails, carefully brushed hair, sweet breath, gentle voice, are some of the essentials of good nursing.

She who has not first considered the matter from every standpoint should not enter the field of nursing.

Figure 2. Editorial by Dr. Brown in *Hospital Herald*, v.1, #11, October, 1899.

could learn much humor, good working manners and common sense advice by reviewing much earlier publications like *The Hospital Herald.*

Although it was difficult to find Dr. Brown cited in biographies of Blacks or reference books on Black doctors, she is included in books on Black women nurses, again a very interesting phenomenon.

Darlene Clark Hine in *Black Women in White* (1989) mentions Dr. Brown in three areas of this book about Black women's contributions to the nursing profession. First, we learn that groups of Black women formed social clubs in the 1890's, many coincided with the launching of the Negro hospital and nursing training movement. "The Lucy Brown Club of Charleston" was one of those clubs.

Second, a recipe for the practical aspects of bedside nursing was given to reflect caution "against over-reliance on textbook learning." Hine also refers to Dr. Brown's use of "clean hands, well kept nails, carefully braided hair, sweet breath, gentle voice as some of the essentials of good nursing."

Third, a glimpse of the extra work nurses in training had to do in order to pay their tuition, also reminds us of a past which was less expensive, but also taught lessons in self-reliance, responsibility for one's own indebtedness, and making sacrifices in order to succeed in life.

Hine describes the extra hard work and responsibilities of nursing students at McClennan-Banks Hospital and Training School for Nurses. We learn that "students were hired out to white and black families in Charleston and the fees collected by the hospital." Student nurses participated in fund-raising fairs to make money for the school. "The first class of student nurses (1889) formed a club named the Gatling Guns. This group performed (danced) at the fairs. They presented their Alma Mater a much needed operating table as their class gift. The nurses had to "maintain the hospital, care for patients, cook, wash clothing, manage a poultry farm, and tend the vegetable gardens" while enrolled in school.[9]

According to Hine, "the students could always depend on Lucy Brown to remind them that in addition to 'sweet breath, brushed hair, and gentle voices,' all they really needed to be successful was 'great adaptability, good judgement, the ability to hold one's tongue, and a willingness to do work outside the usual line,' and finally, a willingness to 'take for their services what patients can afford to pay.'"[9]

In Ruth J. Abram's *Send Us A Lady Physician* (1985), Dr. Brown is once again listed among a group of eight Black women graduates of Woman's Medical College of Pennsylvania. Abram cites "three of the early black women graduates from the Woman's Medical College—Johnson, Jones and Brown as the first of their sex to practice medicine in Alabama, Mississippi and South Carolina, respectively."[10] Abram speculates that their successes could have been related to the quality of education they received in addition to the nurturing, supportive environment where students were able to learn from female faculty role models. Family background, prior education, and social status are also considered by Abram as being related to these women's ability to secure a medical education and their subsequent success.[10]

Abram goes on to say, "Lucy Hughes Brown (1863-1911) moved after her 1894 graduation to Charleston, South Carolina, becoming the first black woman physician in that state. In 1896 she joined a small group of eight black male physicians led by Alonzo C. McClellan (should be McClennan) and established the Hospital and Training School."[10]

In a journal article on "Early Negro Hospitals", Dr. Brown was listed along with three physicians who cooperated to further the cause of the training of Black nurses. Attempts were made to secure the use of the male ward at the City Hospital and the old folks home; both attempts were denied. Without the opportunity to provide practical experience for the nurses, by hands-on activities, the physicians focused on the care of "the colored sick."[11] Plans were formulated for the purchase and equipment of a hospital, because it was impossible to obtain admission for nurses to any public institution in the city; in 1887, the hospital building at 135 Cannon Street was purchased for four thousand five hundred dollars ($4,500.00). The hospital was financially supported by local contributions in its early years of operation.

In summarizing my findings on Dr. Lucy Hughes Brown, it is astounding that so much was accomplished by my ancestors who had so little in terms of their economic base to educate themselves and to begin businesses. The qualities that made it possible for African-Americans to persist in Dr. Brown's time would surely stand the test of today's struggles which African-Americans still encounter. Several very special qualities which we as a race embrace include: (1) perseverance, (2) flexibility, (3) creativity, (4) a sense of humor, and (5) versatility.

At her death on June 26, 1911, as well as throughout her remarkable life, Lucy Hughes Brown, M.D., was the personification of these qualities. ❒

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PORTRAIT OF A WOMAN DOCTOR: LOVE ROSA HIRSCHMANN GANTT "BLACKWELLIAN" OR "JACOBIAN" ?

DANIEL TOBIAS BARKOWITZ*
ELIZABETH YOUNG NEWSOM**

In the fight for women's equality in the mid-nineteenth century, many educated women began to seek alternatives to the normal "women's place" of marriage and children. Some of these women set their sights on the male-dominated fields of medicine and law. But even in the world of medicine, there was division among women themselves as to what a woman's "proper" place and identity should be.[1]

Two early women doctors that represented this division were Drs. Elizabeth Blackwell and Mary Putnam Jacobi. Dr. Blackwell, the first woman to receive a M.D. degree from an American school, believed in the essential differences of the sexes. She believed that medicine was the perfect career for a woman because the qualities of a good physician were those of maternity and because women were naturally fitted to the moral purpose of medicine. She spoke out against male dominated gynecology, hysterectomies, animal experimentation, and vaccination as evils of the medical community. She advocated feminism in medicine by saying that women doctors should help other women enter the field.[2]

Dr. Jacobi, conversely, believed in the essential equality of the sexes. She believed that women doctors should be doctors first and foremost and leave their femininity out of the work place. She believed in the basic equality of men and women and thought that both were well-suited to the medical world. She, too, supported women's suffrage, but believed that the motives of women in medicine should be scientific.[3]

The difference of opinion between these two early women physicians characterized the debate over women's place in the medical world for many years. Many women doctors followed Blackwell while equally as many followed Jacobi; and, based on their accomplishments and activities, many can be categorized as either "Blackwellians" or "Jacobians." By looking at individual life stories, one can deduce what model each followed in her practice. What model did Dr. Rosa Hirschmann Gantt (the first woman graduate of the Medical University of South Carolina and this author's great, great aunt) follow—Blackwell's or Jacobi's?

Love Rosa Hirschmann was born in Camden, South Carolina, on December 29, 1875. The family moved to Charleston in 1883 where her father, Solomon Hirschmann, an 1815 emigre from Austria-Hungry, was a wholesale grocer and a leading figure in the Jewish community. When Rosa was 14, her mother, Lena (Debhrina), died of cancer which in later years would claim the lives of all her children. Rosa accepted "her first responsibilities in making a home for her father and brothers."[4] Her education was in the public schools of South Carolina and the Medical College of the State of South Carolina (now the Medical University) where, by virtue of her name's preceding in the alphabet that of Emilie Viett, the other woman student, she became the first woman graduate of that institution in 1901.

The newly licensed Dr. Hirschmann went on to do her postgraduate work under Dr.

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*Mr. Barkowitz is the great grandnephew of Dr. Gantt.

**Mrs. Newsom is the Curator of the Waring Historical Library, Medical University of South Carolina, Charleston.

Herman Knapp at the New York Ophthalmic and Aural Institute and at the Eye and Ear Clinic of New York University. "Among other skills, she reportedly learned from Dr. Knapp to perform the cataract operation on the left eye with the left hand, an accomplishment in which she took great pride." She returned to South Carolina as resident physician at Winthrop College but left after one term to marry on March 16, 1905, Robert Joseph Gantt.[5]

Mr. Gantt was a prominent Spartanburg attorney who seemed to be a perfect match in temperament to his wife. The *South Carolina Law Quarterly* says of him:

> His voice and ability were through a long life dedicated to the unfortunate, the poor and the troubled, many of them defendants in the criminal courts. For his services he charged modest fees if the client could pay, but more often nothing was ever charged or collected, nor any books kept even to show that any client whom he had served was obligated to him.[6]

The Gantts reportedly had a beautiful home life in Spartanburg and their door was always open especially to service men and younger medical women. They had no children.

In addition to taking care of her busy EENT practice (there are still patients in Spartanburg who speak glowingly of her), Dr. Gantt quickly became involved in securing the role of women in medicine. She was the secretary of the Spartanburg Medical Society from 1909 to 1918. She was a charter member of the Medical Women's National Association (later called the American Medical Women's Association) and served as its president in 1931-32. As one of the first women members of the Southern Medical Association, she twice presented papers at that group's annual meeting.

That she was interested in the cause of women's equality can be seen from her "President's Address" to the Medical Women's National Association in 1931:

> It was in the early thirties, I think, that the first college, in that day scarcely more that a high school (in terms of its educational level,) was opened for the education of women. It was several years later in 1849 that the first woman was permitted to graduate in medicine. Some 15 years later human slavery was banished, and it is less that a decade since women were recognized as the political equal of men and granted the right of suffrage.[7]

From Gantt's "New Year's Greeting from the President" one can see further evidence of her involvement in and support of the women's movement:

> ...In 1932 our whole Association will engage, as a constituent member of the National Council of Women, in forwarding preparations for an exhibit of a hundred years of organized womanhood...at the Chicago World's Fair of 1928.
>
> The program for this comprehensive proof of the progress of women's work in all countries during the past century will be in three parts:
>
> I. AN INTERNATIONAL CONGRESS OF WOMEN to last a week and bring together about thirty of the most outstanding women of all nations to represent the development in every line of endeavor throughout the world.
>
> II. A COMPLETE DISPLAY OF WORK OF WOMEN arranged in the Social Science building...[where the] potentialities as well as past achievements of women in furthering progress of world civilization will be shown graphically.
>
> III. A BOOK OF ACHIEVEMENTS showing the increasing influence of women's organizations on social movements in this country during the past hundred years.[8]

In terms of community involvement, Dr. Gantt was a prolific worker. During World War I, she served on the Spartanburg Selective Service Board as examiner of eyes, ears, nose and throat— the first woman to serve on a draft board. Later she served on the district advisory medical board. She was acting surgeon of the United States Public Health Service, a member of the Fosdick Committee of War Camp Community Service, and holder of a commission for the United States Department of Commerce as medical examiner of pilots. In her career, she had the distinction of serving by appointment of five governors and three presidents. Dr. Gantt was the head of recreational activities for the soldiers at Camp Wadsworth and her home was always open to them. She founded the Spartanburg Chapter of the American Red Cross and served as its first director.

Dr. Gantt's interest in children is evident by her leadership in establishing the playground program in Spartanburg and the state reformatory for girls in Campobella in 1918 where she served on the board of trustees for 10 years. She was also active in her religion, organizing and serving as first president of the Temple Sisterhood of Congregation B'Nai Israel.

With all of these activities, Dr. Gantt's life would have been full and her accomplishments worthy of praise. But without a doubt her greatest gift to her community, her profession, and her state was her work with the American Women's Hospitals (AWH), a group of the Medical Women's National Association (MWNA), formed during World War I to care for the sick and wounded around the world. In 1931 during Dr. Gantt's term as president of the MWNA and with her leadership, the Home Service of the AWH was started in the rural areas of Spartanburg County. The immediate goal was the reduction of pellagra which, at that time was devastating the population. "On a basis of incomplete reporting, it was estimated that there were about three thousand cases of pellagra in the county in 1930."[9]

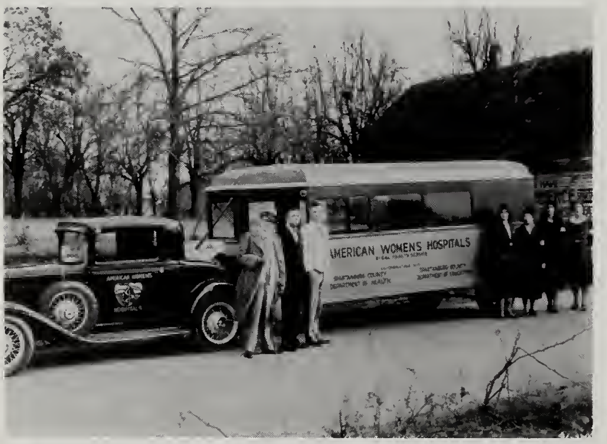

Figure 1. The "Healthmobile." Drs. Sheriff and Gantt are the first two women from the left. (Courtesy: South Caroliniana Library, University of South Carolina, Columbia.)

In cooperation with the Spartanburg County Department of Health and the Department of Education, a "healthmobile" was outfitted and staffed and made the rounds of the rural areas of the county. With Dr. Hilla Sheriff as team leader and Dr. Gantt taking an active part, a U.S. Public Health Service exhibit was used to illustrate lectures on the causes and prevention of Pellagra. "Within two years the people of Spartanburg County knew pellagra when they saw it, and they knew what to do about it."[10] The New York *Times* of September 29, 1932 said:

> The spread of pellagra in Spartanburg County, S.C., which during 1930 took on alarming proportions, has been checked and the deaths in the last two years have been cut by more than one half....The success of the movement to stamp out pellagra in that part of the country is largely due to the efforts of the American Women's Hospitals....[11]

But pellagra was not the only concern of this group. By taking advantage of the healthmobile, regular clinics could be held in remote areas: prenatal, well-baby, and chest clinics were held; examination of school children started; and thousands of immunizations against diphtheria and other communicable diseases given. The mobile unit was even equipped and used for dental work with a stove and running water to facilitate sterilization.

Dr. Gantt was instrumental in taking the rural health program across the North Carolina line into Polk County, serving as director in that area until her death. Because of the rugged terrain in North Carolina, the healthmobile could not be used, but a series of "health houses" was established and served a

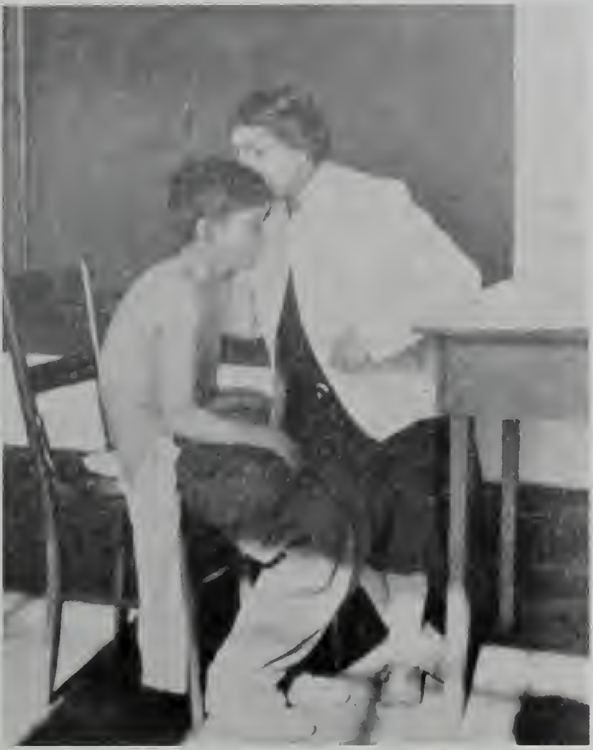

Figure 2. Dr. Gantt examines an undernourished boy in a mountain school. (Courtesy: South Caroliniana Library, University of South Carolina, Columbia.)

similar function of education and health care.

This constant work took its toll and Dr. Gantt's health began to fail. With decreasing energy, she moved from Spartanburg to her summer home in Tryon, North Carolina, but the relocation did not help. On November 2, 1935, she was operated on at the Woman's Medical College Hospital in Philadelphia for cancer of the uterus. She seemed to be improving, and, anticipating being able to go home, expressed to a friend, "It will be wonderful to just sit and look at my mountains." This was not to be. She died at 9:50 A.M. on November 16 of a thrombosis. "Those who knew her best admired her quiet efficiency, her poise and kindness, her high standards of ethics, and her intellect. They respected her judgement and considered her humble opinion of herself one of her chief charms."[12]

What model does Rosa Gantt life follow? Was she a "Blackwellian" or a "Jacobian"? She truly was neither and both. Her life combines the best qualities of both without seeing any contradictions in her actions. Few women have given so much of themselves to their profession, to their community, and to their friends. ❐

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JANE BRUCE GUIGNARD, M. D.: 1876-1963

JANE GUIGNARD CURRY*

During 57 years of family practice in Columbia, Dr. Guignard was known to many patients simply as "Doctor," a title of reverence and affection for a central and enduring figure in their lives. In her chosen field of general medicine, a field which demands strength of body, mind, and character, she was able in her lifetime to help countless people in countless ways, black and white, rich and poor, men, women, and children. Early in the century little was known about genes, but "Doctor" had a sharp eye for inherited tendencies. She also took into account the patient's background at home and at work, the personal characteristics and interactions with others. All of this enabled her to be a shrewd diagnostician and successful therapist.

The history of the Guignard family in this country begins with Gabriel Guignard who emigrated from France to Charleston about 1735 and became a respected and prosperous merchant. His son, John Gabriel, ventured into the midlands and there helped establish Columbia, the new capital of the state. He also began a family tradition of planting, business and public service which was to be followed by successive generations.

John Gabriel Guignard, III, inherited a plantation in Aiken County on the Edisto River from an uncle of the same name and was living there with his young wife, Jane Bruce Salley, and two small children at the outbreak of the Civil War. After four years of fighting, he came home to find his property in ruins, having been in the path of Sherman's March to the Sea. All buildings had been burned, livestock slaughtered and fields laid waste and, with emancipation, almost every worker on the plantation had gone. But John's little family was safe, having taken refuge with friends. He had also somehow managed to acquire two stray Union Army mules. Like many another southern landowner faced with the unaccustomed necessity of providing basic food and shelter, he had to rebuild his life with very limited resources. First, trees were cut and a two-room log house was built, the mules were put to the plow and food crops were planted. everyone worked and worked hard and everyone survived. And more children were born. After some years, a simple frame house was added for bedrooms, but it never became financially possible to replace the original plantation house.

Jane Bruce was the ninth of 10 children born to John and Jane and although she was born more than ten years after the war, the hardships and struggles of Reconstruction were much a part of her childhood and had a lasting impact. Another profound influence in her early life was her mother's role as traditional plantation mistress, responsible for the health of the little community. jane Bruce observed closely how familiar infections and fevers and occasional medical emergencies were met with competence, improvisation and faith. Bruce, or "Brucie" as she was called by her family, knew then that she wanted to be—*should be*— a doctor. But it was an impossible dream as there would be no money for training and, in any case, southern young ladies did ***not*** become doctors.

Despite the long post-war impoverishment, the Guignards resolutely maintained at least some of their standards of gentility and their respect for education. Determined that his children should have schooling, John built a one-room schoolhouse and staffed it with, at one time or another, a widowed cousin, a spinster sister-in-law, and his oldest daughter. There were few books and no teaching aids and the teachers themselves had little formal education. But the pupils nevertheless learned enough to go on to colleges and into successful professional careers. This was possible because the oldest son of the family, Alex, despairing of making a livelihood in farming left the plantation in his early twenties, went to Columbia, and revived a brickyard which his grandfather had operated before the war. Soon he was making and selling bricks to rebuild the devastated town and he was able to bring his younger brothers and sisters, one by one, up from the country to have the advantage of Columbia schools. In due course, Bruce was graduated from the College for Women which was housed in the Hampton-Preston Mansion. She then went for teacher training at Peabody Institute in Nashville. Still cherishing an ambition to become a doctor, she was reconciled to a job in the Columbia public school system. But after a few years, everything changed. Her older brothers were all employed by this time and they concurred in the decision that Brucie should finally "have her chance" and, accordingly, in 1900 she entered the Woman's Medical College in Philadelphia in a class of nine or 10. After graduating in 1904, she stayed on another year as an intern. Returning to Columbia, the young doctor got a small house on Lady Street and a horse and buggy which were kept at a nearby livery stable. She put a polished brass nameplate on her front door and was in business.

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*1 Rice Court, Columbia, SC 29205. Mrs. Curry is the niece of Dr. Guignard.

The all-male local medical professionals were indifferent to this event rather than hostile - perhaps they thought she would not last long. A few were generously helpful. She liked to tell the story of her very first patient who arrived at her door with a note from the venerable Dr. (B. Walter) Taylor. "Dear Bruce – I am sending you Mrs. Sims and her little boy. I think he has worms."

The Columbia Hospital in 1905 was a square brick building which had recently replaced a wooden structure at the same location on Hampton Street. Dr. LeGrand Guerry was chief surgeon and he graciously invited young Dr. Guignard to watch one of his operations. She continued to do that whenever possible and once when the anesthetist was late, she offered her assistance. For the following three years, she served as Dr. Guerry's second assistant, gaining varied and invaluable experience. Thereafter, she never hesitated to do minor surgery in her office when she thought it necessary. The patient lay on her all-purpose table and was given whiffs of chloroform if the procedure warranted it. Instruments were sterilized in a pan over a gas burner on a shelf close by.

The young doctor went fearlessly wherever she was needed, by buggy, streetcar or afoot, often into very squalid conditions. Once she was called on an obstetrical case where conditions were so bad that she put the woman into her buggy and took her to the hospital. It was from that time, at Dr. Guignard's urging that the hospital installed previously lacking obstetrical equipment and began the training of special obstetrical nurses. Dr. Guignard herself started a training program for Black midwives. Childbirth for the more privileged continued for many years to take place at home. For some years during the 20s, Dr. Guignard had a small private hospital of her own in the residence of Mrs. Charles Davis, a former nurse, only a block away from her office. There the new mother could recover in comfort and relative luxury, detached for at least a week from the pressures of home and family. Dr. Guignard thought this very important. She insisted upon breast feeding and the quiet post-partum period served to get the routine well established. In the 30s, Mrs. Davis' health failed and the little hospital was closed.

When questioned by a journalist in 1952 as to how many babies she had brought into the world, Dr. Guignard replied, "I don't know. There were a lot before birth certificates were required.... I have the stubs of all I filed after the law was passed and they count up to more than a thousand. The hospitals now make out the certificates and again I've lost count. But it is a good number. I'd say enough!"[1]

For some years, Dr. Guignard was the official attending physician at Columbia College and the College for Women and she gave this up only when she became too busy to handle it. From the first, her private practice increased rapidly, women especially believing that a woman doctor could offer more understanding and sympathy. But, in many instances, she was physician for the whole family, including aged grandparents. Of course, she made house calls and when she arrived the troubled household began at once to settle down. She acted as skilled nurse as well as doctor, contriving ways to make the patient more comfortable by adjusting pillows and covers, lights and ventilation. Someone said, "Before Doctor has been in Heaven half an hour, she'll be showing St. Peter how to keep the draft off his back when the gate opens, and working on a way to keep haloes from scratching the saints' foreheads."[1]

Often she would stay the night sitting with infinite patience by the bedside of a sufferer, attentive to any changes in breathing or temperature. From her strength and calmness, the patient drew strength and hope. When she dealt with a terminal illness she did nothing to prolong the course of the dying, particularly if the patient was unconscious. When she could ease pain and offer solace she would keep a vigil at the bedside for however long it was helpful.

Dr. Guignard conscientiously kept abreast of new developments in medical science, new drugs and new treatments. But she also continued to rely on croup kettles, mustard plasters and castor oil. By about 1910 she had her own car and had learned to drive it, and she had moved to a larger, two-story house at 1416 Hampton Street where she spent the rest of her long life. She never had her office separate from her residence. At Hampton Street the waiting room was to the right as one entered and the consultation room across the hall. The living quarters for herself and her long-time nurse-assistant adjoined these rooms. Domestic arrangements did not change with the years nor did Doctor's skirt length. Her long, reddish-grey hair was always pinned in a loose knot on top of her head; she never used any sort of make-up and the sturdy laced oxfords served for any occasion.

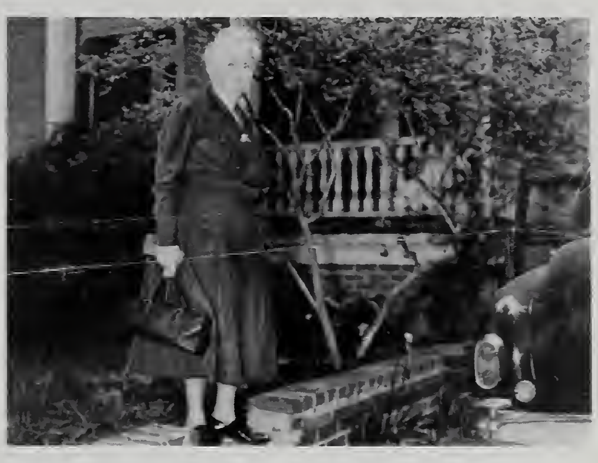

Figure 1. Dr. Jane Bruce Guignard begins another day of general practice.

As would be expected in a very strong-minded individual, she had some rigid opinions. Long before the Surgeon-General's report, she condemned smoking in any form, would not permit it in her house and avoided whenever possible, places where she would encounter it. She was highly critical of any carelessness or sloppiness on a job and sometimes sternly reproved young doctors and interns. Her low and level voice seemed louder than a shout and more intimidating. She did not like women who wore pants or men whose wives were too frequently pregnant. Among her close relatives, her will was law.

While resisting old age herself, Dr. Guignard had a special talent for helping the elderly. She would listen with unhurried attention to every complaint and suggest inventive measures for improving comfort and convenience. She prescribed for all and sundry an elixir known simply as "the pink medicine" which was her own pharmaceutical concoction. Whatever it may have been, it seemed to ease the aches and anxieties of her older patients. She believed that a primary need of the Columbia area was a "home" for the elderly and, as was her lifelong habit, when she saw something that needed doing, she set about to get it done.

In 1895 all of John Gabriel's family had left the plantation and resettled in Columbia on land long owned and long known as "Still Hopes." There was an unpretentious frame house there until, in 1910, a large and imposing brick one was finished and Still Hopes became the focal point and some-time residence for all members of the family. The house and the surrounding virgin woodlands, 35 acres of prime value, on the west side of the Congaree were destined to come to "the last surviving unmarried daughter." As it happened, this survivor was Jane Bruce and she decided to give it all, through the Episcopal Church, to make the home that she had envisioned for older people. The dedication of the first small cottage took place within her lifetime; the implementation of the provisions of her will took a number of years after her death. Now, 30 years later, Still Hopes is a large and flourishing institution, housing some 160 residents in apartments, dormitories, cottages and an infirmary. There is an ever-lengthening waiting list. A new Alzheimer wing is now ready for occupancy. Still Hopes has proved to be a happy solution for many people and "Doctor" would be gratified by its continuing success. The infirmary bears her name but the whole establishment is a memorial to her life, her work, her vision, and her allegiance to her native state.

On September 25, 1940, a portrait of "Doctor", a gift of grateful patients, was unveiled at the Columbia Hospital.

On January 12, 1963, Dr. Jane Bruce Guignard died of acute leukemia after a two-month illness.

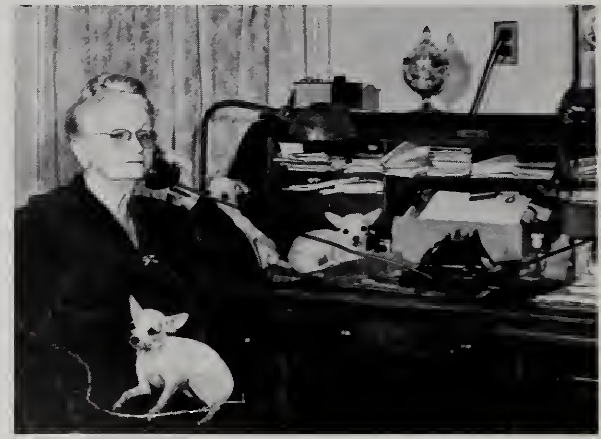

Figure 2. Dr. Guignard and "friends" at her desk.

No words can express the loving esteem in which Dr. Jane Bruce was held by those who knew her best. Her ministry was not in language but in personal concern. She gave of herself without ostentation or comfort and bestowed sympathy and understanding. Her motive was to help wherever need was found. Whether she gave a prescription or not, she always left an unuttered benediction.[2]

Early in this century Dr. Guignard met her male colleagues on their own ground and held her place there, but her genius was essentially feminine. She and others like her blazed the trail for women in medicine. She would feel that this was her most important contribution.

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HILLA SHERIFF, M. D.: 1903-1988 FIRST LADY OF PUBLIC HEALTH

HENRY HEINS, M. D.*
DONNA H. BRYAN**

> It's hard for people now to realize it, but there was starvation. I've seen it. And I saw it in Spartanburg County during the Depression. Back in those days, when cotton was king, it was planted up to the doors. No, or very little, food was planted by the rural tenant farmers. Their diet consisted mostly of fatback, cornbread and molasses.
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> Hilla Sheriff, M.D., M.P.H.[1]

Hilla Sheriff devoted her life to the health needs of the people of South Carolina. Beginning with the Spartanburg County Health Department in 1931, she led the crusade against pellagra, against contagious disease, against child abuse and neglect, and against accidents. She pioneered programs in maternal and child care, in family planning, and in the care of premature infants. Dr. Sheriff was the first female health officer in South Carolina and the first woman president of the South Carolina Public Health Association and was the recipient of numerous awards, including the prestigious Order of the Palmetto, for her contributions to the health care of South Carolinians. Her life was a model of public service.

Hilla Sheriff was born on May 29, 1903, in Pickens County, three miles south of Easley, but moved with her family to Orangeburg before starting to school. Years later, she recalled that, as a young girl, she always named one of her dolls "the doctor" because that was what she intended to be.[2] She entered the College of Charleston at the age of 17 as a pre-medical student. Two years later, anxious to get into medical college before her parents changed their minds about providing financial support, she entered the Medical College of the State of South Carolina, class of 1926.

Gross anatomy proved a traumatic beginning. Professor "Dad" Phillips issued her a hirsute cadaver with a long, flowing beard. Hilla's attempts at shaving her cadaver free of all body hair created a great deal of interest among her fellow students who gathered around to watch her struggles with the razor. At last, a gallant first-year resident, Alfred "Smiley" Burnside, produced a pair of scissors and snipped away the long beard so that Hilla could get on with the shaving.[3] From then on, Hilla settled into her routine as a medical student, undaunted that there were only three women in the class (the others were Leora Perry and Eleanor Townsend). Years later, she told an interviewer, "All through medical school, I never had any trouble because I was a woman in a predominantly male profession. In fact, several times I may have gotten my way because of it."[4]

During her medical school career, Hilla met and dated "once or twice" Dr. Henry Zerbst, an instructor in ophthalmology. One day during eye clinic, Hilla asked the doctor how to spell the drug "homatropine." Zerbst replied bluntly, "Young lady, if you want to *know*, you had better look it up!" Hilla blushed but managed to keep her composure. Later that day, she asked her landlady to telephone a certain Henry Zerbst and tell him that he needn't bother coming for his date with Hilla Sheriff that evening. After hearing the story, the landlady replied, "You silly little thing. He's the only boy with any sense who comes around here."[2]

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**Mrs. Bryan was for 10 years Administrative Assistant in the Department of Pediatrics at the University of South Carolina School of Medicine and a close friend of Dr. Sheriff.

After that, Hilla never forgot how to spell homatropine, and she obviously didn't forget Henry Zerbst either. The love affair, thus begun, was conducted primarily through the mails with frequently exchanged letters and poems, and would last the rest of Henry's life.

After graduating from medical school, Hilla was accepted into an internship at the Hospital of the Woman's Medical College of Philadelphia. However, the internship began in the fall, and as she said, "I knew *so much medicine* I couldn't wait to get started!" She therefore applied for and got a summer internship at a small mountain hospital in Alta Pass, North Carolina. As it turned out, she was the only physician at the hospital; her nearest colleague was four arduous miles away in Spruce Pine. Thus she gained a summer of invaluable experience that sent her off to Philadelphia full of confidence and enthusiasm.[3]

In 1928, Dr. Sheriff left Philadelphia for a year at Children's Hospital, Washington, D.C., where she studied pediatrics. The same year she did a three-month internship at the Willard Parker Contagious Diseases Hospital in New York City. She then returned to South Carolina to establish a private practice in Spartanburg. The Great Depression had begun, and the young physician treated many patients who had little or no income. "I wasn't going to sit idle when I saw people suffering," she said. So she volunteered to conduct some clinics for the Spartanburg County Health Department. She became "hooked" on public health.[1]

During the depression, many physicians throughout the South turned to public health as an area where they felt they could affect the health of entire communities. In January 1931, Dr. Sheriff accepted a full-time position with the Spartanburg County Health Department. Six years later, at age 34, she became its director. She had found her niche.

Figure 1. "Starting out on my own" from Dr. Sheriff's scrapbook.

In early 1931, Dr. Sheriff became involved in a project that would have a tremendous impact on the health of the people in Spartanburg County as well as on her own future career. An organization known as the American Women's Hospitals (AWH) had been founded in 1920 to do medical relief work in Europe. By the end of the 20s the need for post-war medical relief in Europe had been phased out and the organization's focus shifted to the United States which was beginning to suffer from the Great Depression. One of the hardest hit areas of the United States was the Southern Appalachian region. American Women's Hospitals decided to mount a campaign against pellagra and other preventable diseases here. They chose Spartanburg County as a starting place primarily because in 1930 there were approximately 3,000 cases of pellagra reported in the county.[5]

Preventing pellagra depended solely on a proper diet, one containing nicotinic acid. The use of supplemental vitamins was unknown at that time, and could not have been afforded if known. The standard winter diet of many poor southern families during the depression consisted of fatback, cornbread and molasses. The necessary vitamins were readily available in the leafy green vegetables, turnip tops and dandelion greens that grew everywhere, but people in those days regarded these items as "unfit for humans."

In 1931 the American Women's Hospitals group created a healthmobile which consisted of a model A Ford pulling a specially equipped trailer. It was operated by a team consisting of a doctor, a dentist, a nurse, and a nutrition worker to "carry health to the country." Dr. Sheriff was chosen as the team leader and worked as a physician with the project for two years.[5] (see also Gantt, page 18).

In 1933, Dr. Sheriff reviewed the campaign in an AWH report:

"I have been in charge of this traveling health unit since the beginning and...its first trip into the rural sections proved conclusively that ignorance is not bliss." She went on to observe that the people had learned

> through bitter experience that pellagra had gained a foothold among them because something was wrong with their mode of living.... Since the beginning of the AWH work in South Carolina, the Gospel of Health has been preached by our circuit riding unit, and the importance of a balanced, pellagra-preventing diet, during the winter as well as the summer months, has been the dominant theme of this service.

Dr. Sheriff ended her 1933 report to AWH on a note of encouragement: "It is highly significant that the dread disease pellagra, so frequently followed by insanity, has been reduced by one-half in Spartanburg County since the beginning of this service, less than three years ago."[6]

Figure 2. Dr. Sheriff treats young patient in "Healthmobile."

Dr. Sheriff was head of American Women's Hospitals services in South Carolina from 1930-36. During this time she mounted an immunization campaign against other preventable diseases such as diphtheria, the cause of 149 deaths in South Carolina in 1929.[7]

She also began to address two more of the state's most serious problems: the high maternal and infant death rates. She saw that large numbers of people were out of work and could not afford to pay for maternity care. The second AWH project in South Carolina was a maternity shelter which Dr. Sheriff opened in 1932 in the Parker school district of Greenville County and operated "on a shoestring."

The Parker district had boasted 18 large textile plants, but many were now closed and many people were out of work.[8] The Parker shelter took expectant mothers who had no money, delivered their babies, and kept both mother and baby for 10 days. In the next 21 years 4,000 babies were born in this little

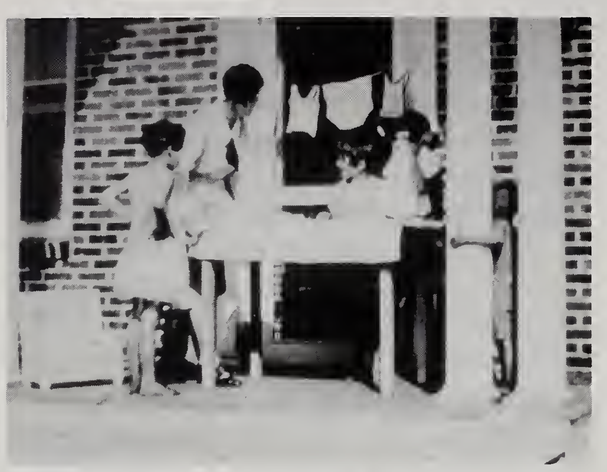

Figure 3. Class for "little mothers."

shelter. By 1966 when the shelter closed, "it had the enviable record of bringing 8,112 babies into the world without the loss of a mother."[9]

Another of Dr. Sheriff's pet projects was the "Little Mothers' Classes," which targeted eight and nine-year-old girls who were responsible for the care of babies at home while their mothers worked in the mills. In these classes the "little mothers" learned home hygiene and how to take care of their younger brothers and sisters as well as themselves.[3]

In 1936 Hilla Sheriff was awarded a Rockefeller Foundation fellowship to study Public Health at Harvard and she earned her Master's Degree in Public Health in 1937. She was the first woman from the South to earn this degree from Harvard.

Returning to South Carolina, Dr. Sheriff directed a research project in Spartanburg County sponsored by the Milbank Memorial Fund to determine the causes of maternal deaths. This study examined each maternal death to determine the cause (usually hemorrhage, infection or toxemia) and, if possible, to determine who was at fault. In 1936, the Spartanburg *Herald-Journal* quoted Dr. Sheriff: "I like to see South Carolina lead in things, but I cannot be proud of the fact that this state leads all others in the nation in its infant and maternal death rates." She noted that the Spartanburg County Health Department had done more than most South Carolina counties to protect mothers and children but much more could have been accomplished if funds had been provided. She concluded:

> It will be done when the people of the county awake to the loss sustained by neglect of mothers and infants. That awakening will come when the women of the county demand that their legislators pay more attention to the preserving of the lives and health of the people of the community than to their election to office and holding of their jobs.[10]

The next step in improving maternal health care was to open "the first health department family planning clinic in the United States" at Spartanburg General Hospital. Because of the opposition to contraception from many areas, both local and national, Dr. Sheriff called these clinics not "family planning" but "postpartum care." There she took care of both concerns. A committee of prominent women and executives from throughout the county organized by Dr. Sheriff helped to squelch public opposition.[11]

Life magazine, in 1940, recognized both North and South Carolina for their foresight in leading all other states in providing birth control in public health clinics. The article ended with these words: "To reach those who need it most, birth control must become, as in North and South Carolina, an official public health measure."[12]

The year 1940 was a watershed for Hilla Sheriff, both professionally and personally. On January 2, 1940, she assumed the post of Assistant Director and Consulting Pediatrician of the Division of Maternal and Child Health, South Carolina Health Department. A year later, she became Director, a post which she would hold until 1967. On July 10, 1940, she married at last, Henry Zerbst, who at that time was Director of the Clarendon County Health Department and who later became Director of Occupational Health for South Carolina. This marriage would last for 13 years until Henry's death in 1953. A poem by Dr. Zerbst conveys his feelings:

To a very lovely Physician, whose
Touch is healing, and whose soft
Voice, quiet Charm and Beauty
Bring much Happiness into my life.[13]

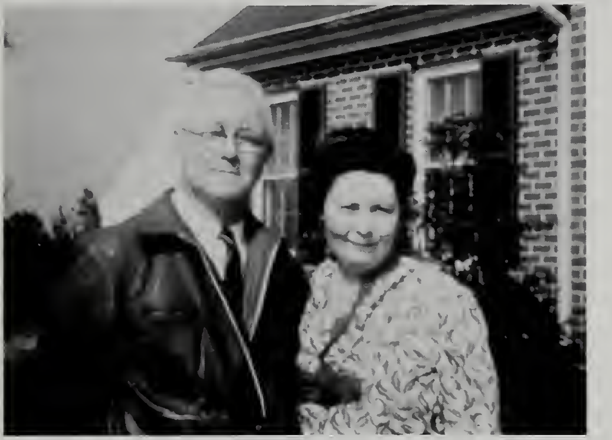

Figure 4. Dr. Henry Zerbst and Dr. Hilla Sheriff.

In the early 1940s, more than one-third of all babies born in South Carolina were delivered by midwives. In the State Board of Health Annual Report for 1940, Dr. James A. Hayne, Director, reported that during the past several years the number of women serving as midwives had been reduced from over "6,000 uneducated, unsupervised 'Granny Women' to approximately 1,800 well trained, constantly supervised midwives."[14]

Dr. Sheriff took a great interest in South Carolina's mid-wives, organizing "institutes" for their continued education and bringing the scrutiny of the state health department to their work. In 1940, the number of maternal deaths in South Carolina was 263. This figure declined steadily during Dr. Sheriff's tenure. By 1960, the number of maternal deaths was down to 44, when Dr. Sheriff reported: "Midwives are still active, particularly in the lower part of South Carolina, but their number is steadily decreasing...since there are community hospitals and medical care available in the rural areas."[15] By 1970, the maternal deaths had been cut to 23.[16]

In 1941, prematurity was the leading cause of infant death in South Carolina, yet there were no nurseries for premature babies in the state. Dr. Sheriff obtained a demonstration grant enabling her to turn a room at the Columbia Hospital into a nursery for premature infants. The grant also funded training in the care of premature infants for a doctor and nurse from South Carolina.

One day during a visit to the "premature center," Dr. Sheriff entered the nursery and found that a baby with pneumonia and a baby with severe diarrhea had been placed in the room with the premature infants. She turned on her heel, went to the hospital kitchen, picked up a butcher knife and calmly walked into the office of the hospital official responsible for admitting sick babies to the nursery. "Sir," she said, "I want you to kill all those premature babies with this knife." The man was understandably shocked. "At least," Dr. Sheriff continued, "they would suffer less than they would when they die lingering deaths from those diseases that you've exposed them to." Dr. Sheriff made her point and soon had the nursery back to what it was designed for—the care of premature infants only."[3]

Hilla Sheriff was a lovely lady who knew when to be tough. Her sweetheart, Henry, knew her determination all too well and gently teased her in a poem entitled "In Lighter Vein":

Hilla has two eyes of brown
Devils in them too,
Hilla has ten fingers white
But how they can pinch you.
Hilla has a charming smile
Trust it not, my lad,
Hilla's voice is soft and sweet
Until you make her "mad."[13]

Dr. Sheriff was instrumental in getting legislation to require PKU testing on all babies born in South Carolina. This simple test would alert doctors to conditions in the newborn that could lead to severe mental retardation unless properly treated.

Another of Dr. Sheriff's concerns was accident prevention. She took part in a statewide automotive crash injury research project sponsored by Cornell University. The almost 2,000 South Carolina accidents investigated contributed significantly to design changes in automobile safety features.

Dr. Sheriff was responsible for the production of a movie, "Accidentally Yours," produced by the Board of Health and the South Carolina Hospital Association. She said, "Education is our only inoculation against accidents. We inoculate entire communities against communicable diseases but there is no needle to prevent accidents."[17]

Dr. Sheriff's career extended beyond the borders of South Carolina. She was an officer of the Medical Women's Association and found time to be South Carolina's representative to three White House Conferences on Children and Youth: 1940, 1950 and 1960. She was elected President of the Association of State Maternal and Child Health and Crippled Children's Directors in 1960. Dr. Sheriff received many invitations to participate in international medical conferences. She was invited to Denmark, spoke in Paris, and was a delegate to an International Women's Medical Conference in Australia.

Dr. Sheriff never had children of her own but said in a 1986 interview: "I always did say I was everybody's mama—all the children of the state. I had about 50,000 a year!"[11]

Her persuasive manner, when working with colleagues in producing programs of health service for mothers and children, was based upon her deep conviction that good health was a basic right of all people. To achieve improved health services she utilized her own inimitable method of organization and leadership challenging all who worked with her. She demanded that professional standards be established, maintained and improved in all programs. As a medical practitioner, her code of ethics exemplified a sense of responsibility and trust which would benefit generations to come.

At the time of her retirement in 1974, Dr. Sheriff was deputy commissioner of the State Department of Health and Environmental Control and chief of the Bureau of Community Health Services. She was South Carolina's highest ranking woman in public health.

Dr. Hilla Sheriff died on September 10, 1988. Few individuals have so positively influenced the lives of so many fellow citizens of South Carolina. She was a benevolent dictator during working hours but a genuine southern lady in her "off time." ❐

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“THAT CRAZY ANNE AUSTIN” ANNE AUSTIN YOUNG, M. D. 1892-1989

JAMES G. WARD, JR., M. D.*

In 1979 a tall, blond and stunningly beautiful young woman brought her two month old infant son into my pediatric office in Mt. Pleasant, S.C. Her husband was a medical student, and I assumed that the infant had been delivered at the Medical University of South Carolina. The young woman was Nancy Davenport Lacy and she related that the infant had been delivered by her grandmother, Dr. Anne Austin Young, in Anderson, S.C. I was amazed that Dr. Anne was still practicing medicine and I inquired of her age. Nancy Lacy told me her grandmother was 87 years old and practiced every day with almost no time off. I asked if her family had tried to persuade Dr. Anne to retire and her granddaughter quickly responded that they had tried to get Dr. Anne to retire in her early seventies, but now they realized that practicing medicine was the one thing that kept Dr. Anne alive. “Grandmother is needed by her patients and she lives to be with them as the delivery of each new infant approaches.” “Grandmother has actually delivered over 10,000 infants to date and she is still going strong!”

I had met Dr. Anne Austin Young during the summer of 1962. I had a summer job working in the laboratory at Anderson Memorial Hospital. One morning I was using the stairs to go one floor up to draw blood on a newly admitted patient. Suddenly behind me a slight, gray-haired woman was bounding up the stairs at the rate of a conditioned athlete. Move over young man, there is a baby on obstetrics that is trying to come into this world and it won’t wait if you block my way!” With that Dr. Anne raced past me and continued her blistering rate of speed for three more flights of stairs. When I returned to the lab, I inquired of the mature woman doctor I had encountered on the stairwell. I was told that she was Dr. Anne Austin Young and that she seldom used the elevators since they were far too slow for her busy schedule. My wife and I were living with her parents in Belton, S.C. for the summer. My father-in-law was Dr. William L. McIlwain who practiced general medicine in Belton for 40 years. Dr. McIlwain laughed when I asked about Dr. Anne Young. He said, “That’s some woman and the best obstetrician-gynecologist I have ever known. When I have an obstetrical emergency, I always call her in on the case and she innately makes the best medical decision for both mother and infant.”

Nancy Lacy never tired of imparting information on her grandmother when she came to my office with her infant son. At one of the well-baby visits she brought me a book and said, “You might enjoy reading this book as it is a biography that covers most of grandmother’s life.” The book was titled *Daring Venture (A Biography of Anne Austin Young - Pioneer Woman Doctor)*, by Beth Ann Klosky. What a delight to have that book and to be able to satisfy my deep interest in the life of Dr. Anne Young and no longer have to pester her granddaughter with endless questions about Dr. Anne.

Anne Austin was born January 15, 1892, in Cross Hill, S.C. The Austin family attended the Liberty Springs Presbyterian Church, an historic little meeting house where Anne Pamela Cunningham and members of her family worshipped. (Ms. Cunningham spearheaded the drive to save and restore Mount Vernon.) Anne Austin and her older sister,

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Katy, spent their early childhood on the family farm. The Austin girls had few "store bought" toys, and like most girls of that day, they helped with the household chores. The importance of a good education was impressed on Anne at an early age and the Austin girls recited their first lessons at their mother's knee. Robert and Clara Nabers Austin wanted the girls to enter school at the same time, so when Katy was seven and a half and Anne was five their mother set up a classroom in the house. There she taught them until they had completed second grade work.

In 1900 at the age of eight Anne entered the Cross Hill School where her uncle Zach Nabers was headmaster. The school house had four rooms and three teachers and graded levels from first through the ninth grade. In 1906 at the age of 14 Anne Austin completed the curriculum at Cross Hill School and graduated with her sister, Katy. Mr. and Mrs. Austin had not attended college, however, they were determined that their daughters should obtain a college degree. Anne and Katy Austin easily passed the entrance exams for Presbyterian College in Clinton, South Carolina, and began their college studies there in the fall of 1906. At the time Anne attended Presbyterian College there was a faculty of five. Anne was a committed and gifted student and made extremely high grades. During her college years, Anne met a young dentist, Dr. Henry Young, who had recently graduated from the dental school at Vanderbilt University. Charles Henry Young was born in Due West, South Carolina, and had graduated from Erskine College there. Anne Austin and Henry Young shared a "longing" to become missionaries. Henry Young was convinced that he needed to study medicine before going to the missionary field. In 1909 Henry Young entered medical school at the University of Maryland. Anne Austin secretly determined that she too would become a doctor.

In 1910 Anne Austin was to graduate from Presbyterian College; and because of her outstanding academic performance, she qualified as the valedictorian of her class. The board of trustees balked at her selection as valedictorian since this honor had always gone to a male student. After much heated discussion the board of trustees came to the conclusion that Anne Austin must be allowed to deliver the valedictory address for there was no male student who even approached her academic record. After 1910 young women were not encouraged to attend Presbyterian College and it eventually became a man's school and remained so for many years.

After graduation in 1910 Anne revealed to her family that she wanted to study medicine and become a medical missionary. The word spread through Cross Hill that Anne wanted to be a doctor, neighbors began to say, "That crazy Anne Austin! She believes she can do anything." Anne's parents finally became convinced that her determination was real; however, they could not afford to send her to medical school. Anne agreed to enter nurses' training and in the fall of 1910, she entered the nursing school at the University of Maryland. She soon realized that being a nurse was unacceptable for her, but she completed all of the class work and stood her examinations. Her grades as usual were superior!! Anne only required a few hours of clinical duty on the wards to receive her diploma. Anne wanted to be a doctor, not a nurse. She felt that completing the nursing curriculum was wasting her time. Just before Christmas in 1910, Anne informed her parents of her decision and returned home to Cross Hill. Anne would now begin her preparation for medical school.

Anne easily passed the teachers' exam in Columbia, and was offered the position of teacher in a one-room school house, four miles from Cross Hill. She began to save as much out of her salary as she could for medical school. At the end of the school term, she had almost enough saved to enter the first year of medical school. With some financial help from her parents, Anne entered the Woman's Medical College of Pennsylvania in

September of 1911. (There is no record as to whether Anne Austin considered applying to The Medical College of the State of South Carolina.) The Woman's Medical College of Pennsylvania was the only medical school in the Western Hemisphere whose primary goal was the medical education of women.

During her years in medical school, in order to "make ends meet," she held a part time job as a teacher's assistant in the college's medical laboratory; and since she was an expert typist, she opened her own typing service. While Anne was in Philadelphia in medical school, Henry Young transferred from the University of Maryland Medical School to Jefferson Medical College in Philadelphia. The friendship between Anne Austin and Henry Young grew during these years in Philadelphia, but their friendship had not yet blossomed into romance.

At the end of the freshman year in medical school, Anne held the highest scholastic average in her class and was awarded a scholarship to continue her studies. Throughout medical school Anne maintained the number one position in her class and completed her medical studies under full scholarship. Anne Austin graduated from the Women's Medical College of Pennsylvania on June 2, 1915. She was once again the valedictorian of her class. To Anne's disappointment no member of her family was there to see her receive her M. D. degree. Her sister, Katy, was graduating on the same day at White's Bible College in New York; and, since her parents could not attend both ceremonies, they attended neither. Anne's academic record was rewarded by the offer of residency training in pediatrics at the University of Edinburgh in Scotland. She turned down the offer for she had fallen in love with Henry Young and hoped to be married soon.

Anne Austin returned to South Carolina in June, 1915, and prepared to take the state medical board examination. She arrived in Columbia to take the exam and found that she was the only woman among a group of 50 men. She exempted the examination on the first two years of medical school due to the extremely high grades she had made at the Women's Medical College of Pennsylvania. Two weeks following the exam, Anne received official notice that she had successfully passed the exam and was now licensed to practice medicine in the state of South Carolina. A few days after receiving her exam notice, she received a letter from Dr. Fred Williams inviting Dr. Anne Austin to join the medical staff of the South Carolina Hospital for the Insane. The offer, Dr. Williams stated, was forthcoming because Anne had made the highest average on the state medical board that had ever been recorded. Anne accepted Dr. Williams' offer. It gave her a chance to do a residency in psychiatry under Dr. William A. Sandy who had trained under Dr. William White, eminent Harvard psychiatrist.

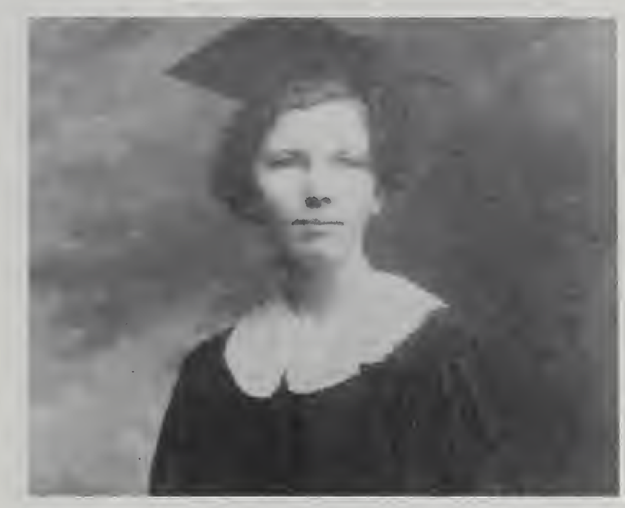

Figure 1. Anne on graduation day from Women's Medical College. The lace collar was a gift from a grateful patient whom Anne had attended while in school.

During her years at the State Hospital, Anne headed the Department of Obstetrics and Gynecology and taught classes at the institution's School of Nursing.

In 1916 Henry Young returned to South Carolina and to Anne Austin. Henry Young had completed his residency in surgery in Connecticut and joined his brother, Dr. James Young, in the practice of surgery in Anderson. On Easter Sunday, March 31, 1918, Anne Austin and Henry Young were married at Cross Hill. For their honeymoon, they went

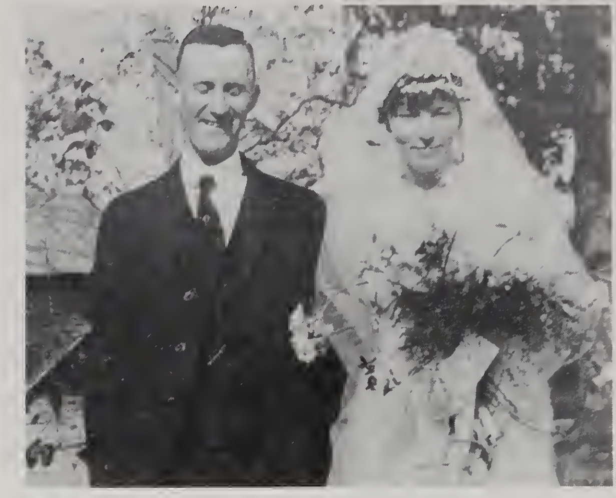

Figure 2. Dr. Anne and Dr. Henry on their wedding day.

to Rochester, Minnesota, to attend a medical course at the Mayo Clinic. On their return to Anderson, Anne joined the Young brothers in practice as an Obstetrician and Gynecologist.

Prenatal care was unheard of at this time and Dr. Anne Young saw many of her patients for the first time when she went to their homes to deliver their infants. Until the early 1930's, Dr. Anne delivered most of her patients in their homes. In 1926, Anne had a baby of her own. The child was called Anne, Jr., and was the pride and joy of the Doctors Young. Dr. Henry Young practiced surgery until 1958 when a severe allergy affecting his hands forced him to give up the scalpel. He continued to consult in surgery and practice non-operative medicine until 1966 when he suffered a massive stroke that confined him to his home. In 1968 Dr. Henry Young died after lying unconscious for a week in the hospital. Dr. Henry died in Dr. Anne's arms.

Dr. Anne Young practiced obstetrics until 1983 and continued seeing gynecology patients until 1986; still going strong at the age of 94. During her 74 years in practice she delivered over 11,000 infants and never lost a mother. Dr. Anne Austin Young died in her sleep on January 25, 1989. Her body had slowed slightly during the last two years of her life, but her mind remained active and alert to the end. She had never lost her love and enthusiasm for medicine.

Dr. Anne Austin Young received many honors during her lifetime. On June 14, 1977, she received the Order of the Palmetto from Governor James B. Edwards. On February 23, 1979, she received the Service to Mankind Award from the South Carolina Sertoma Clubs. On January 12, 1981, she was inducted into the South Carolina Hall of Fame and on May 1, 1982, she was awarded a Doctor of Science degree from Columbia College.

The medical legacy of Dr. Anne continues in her family Her grandson, Dr. John Davenport, Jr., graduated from the Medical University of South Carolina and is in family practice in Irvine, California. This young man also obtained a law degree and practices law in combination with his family practice. Dr. Anne's granddaughter, Nancy Davenport, married Dr. Mark Lacy, a graduate of The Medical University of South Carolina who practices obstetrics and gynecology in Anderson, S.C. How pleased Dr. Anne must have been to see this young man come to her "territory" and practice her specialty. Nancy and Mark have two children; Nathan, age 13 years (the infant brought to my office when Mark was in medical school) and Anne, age 11 years. Dr. Anne delivered both of her great grandchildren, probably the most joyous experience of her entire medical career.

Anne Austin Young was indeed a pioneer woman of medicine in South Carolina. More than that she was an inspiration to all of her medical colleagues and a beloved friend and physician to her patients. ❐

REFERENCES

1. Klosky, BA. Daring Venture (A Biography of Anne Austin Young, Pioneer Woman Doctor) Beth Ann Klosky, c.1978.
2. Personal correspondence with the family.

FOUR ADDITIONAL TRAILBLAZERS OF INTEREST

W. CURTIS WORTHINGTON, M. D.*

The planning of this historical issue of *The Journal* has not been without some frustrations. The question of whom to include in limited space is not always easy, and for some individuals the biographical information is so sparse that a reasonably comprehensive article was not possible. There were time constraints as well, and one happy outcome of this effort would be for it to have stimulated further research into one or more of the subjects. The brief sketches in this section are by no means "the also rans" in a contest on the greatest of South Carolina's pioneer women physicians. They are all important, but for a variety of reasons are not readily adaptable to a longer format.

RHODA WATERS SUMMERS KILGORE

The only information that we have concerning the practice of medicine by a women in the first half of the 19th century is on the career of Rhoda Waters Summers Kilgore. The nature of Dr. Kilgore's training in medicine is obscure and under what legal authority she practiced, if any, is unknown. She is believed to have studied with, Dr. James Kilgore, whom she married when she was 14, and she practiced obstetrics in Newberry County in the 1820s and 1830s. She began her practice as a very young woman and began to reduce her activities as a practitioner as her 10 children began to arrive some 10 years after her marriage.[1]

DR. EMILIE MELANIE VIETT RUNDLETT

Dr. Emilie Melanie Viett Rundlett was, technically speaking, the second woman to graduate from the Medical College of the State of South Carolina. She was in the class of 1901 with Dr. L. Rosa Hirshmann (Gantt) and receives second billing only as a result of her place in the alphabet. Emilie Viett was born in Charleston in 1876, trained as a teacher at Memminger School and "briefly taught what amounted to nursery school" before launching into her medical career. Following graduation she went to New York for postgraduate training. She soon met and married Dr. Henry Albert Rundlett, a dermatologist and fellow physician in one of the clinics in which she worked. Her marriage ended tragically. Their only child died in infancy and Henry Rundlett died in 1904. For reasons unknown she elected to remain in the vicinity of New York and began a practice in Jersey City, New Jersey, in 1906 where she spent the rest of her life. Her career was a successful and contributory one. She practiced general medicine with emphasis on women and children and had a special interest in infectious disease. She served as a consultant on bacterial meningitis to a number of hospitals in New Jersey and had a considerable interest in the methods advanced by Sister Kenny in the treatment of poliomyelitis. In 1939 she became president of medical staff of the New Jersey Medical Center, one of the country's largest hospitals, the first woman to hold such a position in New Jersey. In 1940 she became a fellow of the American College of Physicians. When Seton Hall Medical School was organized in 1956, she was one of the original clinical professors of medicine.

Dr. Rundlett in her later years was

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*W. Curtis Worthington, M. D., The Waring Historical Library, MUSC, 171 Ashley Avenue, Charleston, SC 29425.

described as "an old fashioned and courtly but very experienced clinician," and "a gracious hostess." She had a sense of humor. It is clear that she was a very kind but very tough lady who maintained a superior intellectual capacity to the end of a long and satisfying life.[2]

MATILDA EVANS

Matilda Evans, the first Black native South Carolinian to practice medicine in the state, was born into modest circumstances in Aiken County. She was endowed with a keen intellect and her parents encouraged her to look beyond local circumstances for her future, beginning with a good education. She became a student at Schofield Normal and Industrial School in Aiken. Her parents' faith in her ability was well placed. She went on to graduate from Oberlin College and the Woman's Medical College of Pennsylvania, in Philadelphia, receiving her medical degree in 1897. Although she held a scholarship to medical school she earned much of the support for her education through part time work.

Following graduation Dr. Evans settled in Columbia and practiced medicine until the 1930s. There can be little doubt that she was quite successful and highly regarded by all segments of society. In a letter on behalf of another black female applicant to the Woman's Medical College of Pennsylvania in 1907, she wrote "I must tell you that I have built up the most enviable reputation. I have done well and have a very large practice among all classes of people. I have not lost one day since I left college." Her letter taken in its entirety reflects confidence in her own considerable abilities and satisfaction with her work.

Dr. Evans addressed the health needs of the underserved in Columbia in ways far beyond routine practice of medicine. She established the first black hospital in Columbia and was instrumental in founding several free clinics. From her own resources she developed recreational facilities directed primarily to the needs of young people and was responsible for the development of educational programs on matters of health.

Dr. Evans was active in at least two professional organizations, the Congaree Medical Society and the Palmetto State Medical Society and served as president of both. She was also active in the Episcopal Church.

This remarkable woman who had no children of her own adopted and reared eight children.

She died in the city she had served so well for so long on March 17, 1935.[3]

ELEANOR WINTHROP TOWNSEND

The distinction of being the first woman to serve full time on a medical faculty in South Carolina belongs to Eleanor Winthrop Townsend, a graduate of the Medical College of the State of South Carolina in 1929.

Dr. Townsend was born at Bleak Hall Plantation on Edisto Island in 1895. Her quick mind and private tutoring enabled her to enter Chicora College for Women in Columbia at the age of 14 and to earn its Bachelor of Arts degree in 1913. This was followed by training as a nurse at Roper Hospital and subsequent practice in that field. It is probable that dissatisfaction with her role in nursing is what led her to medical school in 1923. The record indicates that she completed one year at the Medical College of the State of South Carolina but did not finish the curriculum and receive her degree until 1929. She did her postgraduate training at Mercy Hospital in Bay City, Michigan, and Willard Parker Hospital in New York City.

Dr. Townsend joined the clinical laboratory of Dr. Francis B. Johnson in 1931 with a regular appointment as Instructor in Clinical Pathology. She was subsequently promoted to Associate and remained in the department until 1940. There was not to be another woman on the regular faculty for another eight years when the distinguished American embryologist and South Carolina native, Dr. Elsie Taber, joined the Anatomy Department as Assistant Professor. Dr. Townsend left South Carolina to become Assistant Professor of Pathology and Bacteriology at Emory University Medical School. During the Second World War she was recruited by the Navy for her knowledge of tropical medicine, probably because of its bearing on the war in the South Pacific. Tropical medicine was a significant topic in the medical curriculum in South Carolina in the years before the war. She left her position at Emory in 1950.

She held a position in Pathology at Kentucky Baptist Hospital in Louisville and was chief of Laboratory Services at Veteran's Administration Hospitals in Mountain Home, Tennessee, and Salisbury, North Carolina.

Dr. Townsend returned to South Carolina in 1956 to establish the state's first virology laboratory in Columbia as a section of the State Board of Health Hygiene Laboratory. In her role as State Virologist she is remembered by colleagues for the impressiveness of the up-to-the-minute laboratory which she designed and the amount of work that was performed there. She is also remembered for her helpfulness to visiting technologists and her gracious and pleasant demeanor in her role as teacher.

Dr. Townsend was active in organized medicine in the American Medical Association, the South Carolina Medical Association, the Southern Medical Association, the American Women's Association, the American Society of Clinical Pathologists, the College of American Pathologists, and the English Royal Society of Hygiene.

Dr. Townsend loved the natural beauty of the North Carolina mountains and maintained a home in Brevard, North Carolina, for many years. She died there on Wednesday the 12th of September, 1973.[4] ❐

NOTES

1. The author obtained the information about Dr. Kilgore from a feature article in The State, 14 February, 1937, by Nell Flinn Gilland. Ms. Gilland evidently interviewed descendants who passed on to her a strong oral tradition. More information about Dr. Kilgore would be of great interest.
2. A paper in previous issue of The Journal by W. D. Sharpe, M.D. (Vol.84, #3, pp. 129-132, March 1988) contains primary information reported by a personal friend of Dr. Rundlett and is commended to anyone interested in early female physicians. Much of this brief sketch is based upon it.
3. Material on Dr. Evans was obtained from the following published works: A True Likeness.The Black South of Samuel Roberts 1920-1936, Thomas Johnson and Philip Nunn, Editors, Algonquin Books of Chapel Hill, Chapel Hill, NC, 1986; and South Carolina's Blacks and Native Americans 1776-1976, Dr. Marianna W. Davis, Chairperson, States Human Rights Commission, Columbia, SC, 1976. Dr. Evans' letter is in the Archives and Special Collections on Women in Medicine at the Medical College of Pennsylvania in Philadelphia.
4. Limited information on Dr. Townsend was available in a regrettably thin file in the Waring Historical Library. The author is indebted to Miss Mary Leonard, B.S., MT, and Mrs. William S. Benton (Dr. Townsend's niece) for enlightening personal reminiscences.

Editorials

SOUTH CAROLINA WOMEN IN MEDICAL SCHOOL, 1892 - 1992

In September of 1892 the faculty of the Medical College of the State of South Carolina received a strange request which was unusual in two respects. The potential applicant wanted reduced tuition for himself and his wife, presumably on the skewed logic that if two could live as cheaply as one then two could be educated as cheaply and one as well. The Dean replied that although no woman had ever been admitted to the college, the college would admit both the husband and wife but that the admission of the wife would have to be on the same basis as anyone else. This was a distinct change of policy from that which held in 1889 when Sarah Allen had applied for admission and been rejected (see page 9). There is no further mention of the possibility of women matriculants in medical college until March of 1894 when an inquiry as to whether or not the college accepted female students was answered in the affirmative. The potential student was either denied admission or did not apply; she is not heard of again. The 1893-1894 circular of the Medical College declared that "the faculty after mature consideration and in consequence of the application of several women wishing to enter upon the study of medicine, have determined to open the doors of the college to them for that purpose. The same requirements will be exacted from female medical students as are already demanded under the rules of the college."

This arrangement did not produce a flood of female applicants. The first two women to be admitted, L. Rosa Hirshmann (see page 20) and Emilie M. Viett did not matriculate until 1898. They graduated in 1901. From 1903 through 1912 it appears that only seven women graduated from the Medical College of the State of South Carolina, a little over two percent of the total number of graduates. The period from 1913 to 1923 was worse, with no female graduates. This was clearly due to a return to a policy, unwritten, of once again declining to accept female applicants. The notice that women were accepted on the same terms as men was dropped from the 1910 catalog and did not reappear again until 1917. This was done at the urging of Dean Robert Wilson and faced some transitory opposition. Again, no substantial enrollment of female students occurred. Between 1923 and 1952 the average number of female graduates was a little better than one a year, ranging in any given year from zero to five, with most classes having one, two, or three female students. Beginning in 1952 things improved a little with an average of slightly fewer than three a year between 1952 and 1974 with most classes having two, three or four female graduates, but with two classes still having none. There was a sudden upturn in 1975 with 13 graduates. A gradual increase occurred between 1975 and 1987 and has leveled off at about one-third of the class. Absolute numbers in a class have not changed significantly in the last 13 years, but the class size was gradually reduced between 1985 and 1989, contributing to the development of a class consisting of one third women. The University of South Carolina School of Medicine has also attained a level of one third female matriculants or slightly better as it has increased its class size over the years.

The relatively rapid increase in the number of women seeking admission is a phenomenon which is national in scope and would make an interesting detailed study. The percentage of women applying in the years prior to and immediately after 1972 might reflect a rising interest among women in the practice of medicine as a result of cultural attitudes and sociological changes in society regarding women's roles. A specific local factor was an abrupt increase in class size from 125 to 165 which required a larger pool of well qualified applicants. The number of women admitted jumped from three of 125 in 1970 to 13 of 165 in 1971. Although precise conclusions on the relative effects of changes in attitudes of women toward careers in medicine and changes in perspective of admissions committees cannot be reached without research into the number of women in the applicant pool, it would appear that the interest by women in medical careers has increased remarkably in the last twenty years. Not surprisingly, they have competed very successfully for places in medical school. At this time the proportion of women in medicine does not seem to be headed toward their proportion in the general population or, as in Russia, beyond. Whatever the eventual representation of women in medicine, there can be little doubt that the larger number of female practitioners is adding a highly desirable dimension to medical care. The resulting more balanced perspective on how medicine is practiced should be of great benefit to the future of the profession.

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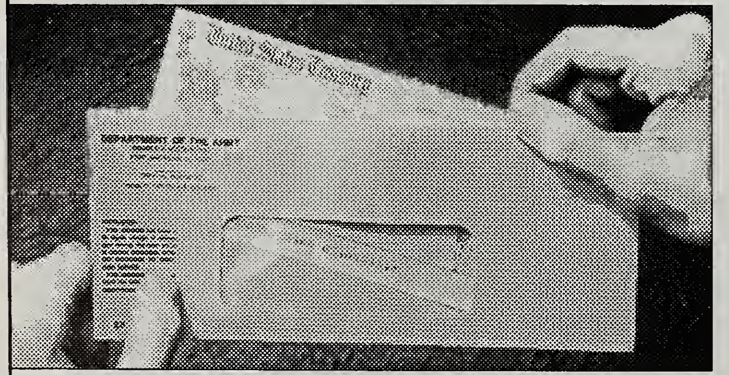

President's Page

COMMUN-I-CARE: WE CAN DO MORE

According to the AMA, American physicians and surgeons donate more than seven billion dollars per annum of their time and expertise to the care of our patients who can either not afford to pay or can only pay a portion of their medical care.

During this past year, through the efforts of a coalition of the South Carolina Medical Association, the Palmetto Project, the South Carolina Department of Social Services, Blue Cross/Blue Shield of South Carolina, and the Samuel Freeman Charitable Trust, an "800" phone number is available in our state for patients, who have limited or no access to medical care, to call for an appointment.

This COMMUN-I-CARE Project is similar to projects in place in the states of Arkansas and Kentucky. The commitment of the physicians and surgeons who volunteer their time is to see these elective patients one time for free. The options are (1) to continue treating the patient, (2) refer the patient to one of the more than 30 free medical clinics around the state or (3) to refer the patient to a specialist, if that is necessary. DSS will be able to screen the patients to make sure they are not covered by Medicaid. There are over 130 primary care physicians who have already agreed to participate in this project. The Palmetto Project computers will keep a separate data base of specialists who will also agree to see these patients on referral from primary care physicians. The SCMA keeps a list of pharmaceutical houses that are willing to donate medicines.

Sure, there will be "glitches" in the system. Sure, there will be complaints. Sure, it won't solve the entire problem of over 540,000 South Carolinians with **NO** health insurance, but it is a realistic start.

If you are a primary care physician and/or specialist and have not signed up yet, please consider doing so. Call Suzanne Hellams at the SCMA, 1-800-327-1021. **YOU CAN HELP.** Remember, it is better to give than receive.

Bartolo M. Barone, M. D.
President

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Contents

Original Scientific Articles

67 **The Etiology and Treatment of Venous Stasis Ulcers**
Wayne M. Burr, B. S., Bruce M. Elliott, M. D., Jacob G. Robison, M. D., Thomas E. Brothers, M. D.

71 **Tuberculosis and AIDS in South Carolina: A Case-Control Study**
Francisco S. Sy, M. D., Dr. P. H., Babgaleh B. Timbo, M. D., Dr. P. H., Cheryl L. Addy, Ph. D., Donna L. Richter, Ed. D., Caroline A. Macera, Ph. D., Carol J. Pozsik, R. N., M. P. H

83 **Bacterial Tracheitis: Recognition and Treatment**
Robert S. Seigler, M. D.

Special Article

88 **Factors which Discriminate Rural and Urban Family Physicians Practicing in South Carolina**
Philip J. Michels, Ph. D., Carlton A. Hornung, M. P. H., Ph. D., Jan Updike, M. D., David Sheridan, M. D.

Editorial

93 **The White Plague Returneth**
Charles S. Bryan, M. D.

Features

98 **Auxiliary Page**
96 **Letters to the Editor**
97 **On The Cover**
63 **President's Page**

Association

99 **Erratum**
91 **Gray Matter**
100 **Information for Authors**
78 **Physician Recognition Award**
79 **SCMA Newsletter**

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THE ETIOLOGY AND TREATMENT OF VENOUS STASIS ULCERS*

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INTRODUCTION

Venous stasis ulceration resulting from chronic venous insufficiency affects approximately 0.5 percent of the U.S. population.[1] History dating back to the ancient Egyptians and Greeks attests to the difficulties and frustrations of treating this disease. Hippocrates in 500 B.C. advocated incising superficial varicosities as the treatment for leg ulcers. Celsus (25 B.C.-50 A.D.) advised avulsion and cauterization of lower extremity varicosities and the use of plaster and linen bandages for ulcers of the leg. Galen (130 A.D.-200 A.D) and Aetios of Amida (502 A.D.-574 A.D.) likewise utilized plaster and linen bandages.[2]

The fear of mixing "Black Bile" into a person's circulation precipitating madness denied patients afflicted with leg ulcers even the simplest of treatments during the Dark Ages. Despite the prevailing contrary opinion, some practitioners still used vein ligation as a form of therapy.[2]

John Gay described the association of perforating veins and venous ulcers of the leg without obvious varicosities in 1868. Gay suggested that ulcers of the leg could occur if the deep veins suffered post-thrombotic damage, rendering the valves incompetent, originating the term venous ulcer. Unna, in 1887, advocated the use of a supportive "boot" which compressed the leg as a form of treatment of leg ulcers.[3] Ligation of the saphenous vein at the sapheno-femoral junction was introduced by Trendelenburg in the latter part of the 19th century and Perthes[4] advocated excision of the vein altogether. Mayo, Keller, and Babcock proposed stripping of the saphenous vein as an alternative approach.[5]

Homans in 1916 described the "post-phlebitic syndrome" in which the etiology of valve destruction was secondary to organized thrombus on the valves. Linton introduced sub-fascial ligation of incompetent perforating veins in the lower leg as a surgical treatment for leg ulcers in 1938. The procedure as originally described remains in use today with only minor modifications of the technique by Dodd in 1964[6] and DePalma in 1979.[7] The mainstay of therapy for managing venous insufficiency nonetheless is compression.[8]

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ETIOLOGY

The hallmark of venous insufficiency is failure of the calf muscle pump to effectively evacuate blood from the leg. Consequently, leg ulcers usually occur just above the medial malleolus[9] for several reasons: (1) venous hypertension resulting from venous outflow obstruction, either by intraluminal thrombosis, or extraluminal compression of the vein such as a pelvic tumor; (2) regurgitation of venous blood in the deep veins of the leg secondary to valvular destruction either by thrombosis or by primary valvular agenesis, i.e. floppy valve; (3) incompetence of the communicating/perforating veins of the lower leg secondary to valvular destruction or valve ring dilatation due to increased pressures in the veins; (4) superficial venous system incompetence either as primary varicosities or secondary varicosities due to valvular incompetence of the deep system necessitating the superficial system to act as collaterals; and (5) primary muscle fatigue, i.e. paralysis[10] (Table 1).

It is hypothesized that the events leading to venous ulceration are at the capillary level. First, capillaries dilate because of increased intraluminal pressures that may rise as high as arterial pressures.[9] This is a direct consequence of increased venous pressure. Fibrin, fibrinogen, and other proteins are transudated into the interstitial space because of the altered permeability of these “leaky” capillaries. This deposition results in pericapillary fibrosis, anoxia, and malnutrition of the overlying skin and subcutaneous tissues which sets the stage for tissue necrosis. Lipodermatosclerosis is now evident with the replacement of the skin and the subcutaneous tissues with increased fibrin deposition. This makes the ankle appear constricted with the characteristic hemosiderin pigmentation.[10] The precipitating factor for ulcer formation is usually some trivial trauma that many patients cannot remember. Secondary infection may be seen with these ulcers, but this is not the initiating event, nor is it a significant sustaining factor preventing ulcer healing.[10,11] The chronicity of venous ulceration is related to the severity of the venous disease, the amount of fibrin deposition, capillary occlusion in the ulcer bed, and the external environment of the wound.[12]

TABLE I
ETIOLOGY OF VENOUS STASIS ULCERS

I. **Venous Outflow Obstruction**
    - intraluminal obstruction
    - extraluminal compression, i.e., pelvic tumor

II. **Venous Regurgitation**
    - valvular destruction
    - primary valvular agenesis (floppy valve)

III. **Venous Incompetence of the Communicating/Perforating Veins**
    - valvular destruction
    - valve ring dilatation due to 2° increased intraluminal pressures

IV. **Venous Incompetence of the Superficial Veins**
    - primary varicosities
    - secondary to functioning as collaterals
    - due to valvular incompetence of the deep venous system

V. **Primary Muscle Fatigue**
    - muscle paralysis

ASSESSMENT

Several commonly employed non-invasive methods are available today to augment the history and physical findings associated with venous insufficiency. These include photoplethysmography (PPG), continuous wave Doppler, B-mode real time ultrasonic valvular function assessment, and duplex scanning. Invasive diagnostic studies include direct venous pressure measurements, ascending/descending phlebography, and ascending functional cinephlebography. Each of these studies has its merits and frequently several studies are required for both a qualitative and quantitative assessment of the extent of the disease process.[13,14,15]

TREATMENT

Non-operative treatment is the mainstay of management for chronic venous insufficiency ulcers. The reduction of venous hypertension in the ulcer bed is fundamentally essential for ulcer healing and requires external compression and limb elevation. Theoretical calculations using Starling's law would suggest the amount of pressure that needs to be applied at the ankle must be in excess of 35-40mm Hg.[16] Unna's boot introduced at the turn of the century is still considered the standard form of therapy today for the outpatient management of venous ulcers. It is a moist paste bandage impregnated with zinc oxide, calamine lotion, and glycerine which is wrapped snugly around the leg in direct contact with the ulcer up to the knee. The major disadvantages of the Unna boot include dermatitis, difficulty bathing, pain, and odor. Additionally, it requires frequent and multiple outpatient visits for dressing changes — all of which lead to problems with patient satisfaction and compliance. Hydrocolloid dressings such as Duoderm® have been compared to the Unna boot for effectiveness in the healing of venous ulcers. Although one study demonstrated decreased benefit using hydrocolloid dressing as compared to Unna's boot,[16] others have shown equieffectiveness with increased patient compliance and decreased office visits due to the ease of changing the hydrocolloid dressing by the patient.[17] It is clear, however, that a hydrocolloid dressing alone is not effective in achieving ulcer healing, but it is useful only in conjunction with adequate below knee external compression. There continues to be a role for the Unna boot in the management of the non-compliant patient, and perhaps, for the treatment of larger ulcers.[17]

Fewer than 10 percent of venous ulcers are refractory to medical management and require an alternative approach to the problem.[18] Surgical treatment of the chronic venous ulcer has not changed drastically since the time Linton reported his technique of sub-fascial ligation of the communicating veins of the lower extremities along with the high ligation of the saphenous vein.[19] He later amended his approach by adding the removal of the saphenous vein, ligation and division of the communicating veins on the inner and posterior aspect of the lower leg, interruption of the deep venous system of the thigh by high ligation and division of the superficial femoral vein and removal of portion of the deep fascia of the lower leg to promote lymphatic drainage.[19,20] Modifications of the Linton procedure have replaced his original description and now may include removal of the greater and lesser saphenous vein below the knee, resection of the ulcer bed, sub-fascial ligation of the perforating veins, and bipedical flaps.[7]

The popliteal valve has been called the "gate keeper"[21,22] due to its importance in determining the success of surgical treatment for venous insufficiency. Higher surgical success rates have been reported in patients with competent popliteal valves as compared to patients with incompetent valves.[23] Valvular surgery consists of two main facets: (1) valve repair, or (2) valve transposition. For repair of the valve, the basic structure of the valve must be intact but incompetent, i.e. cusps prolapse ("floppy valve"), or valve ring dilatation or both. Valve repair has limited applicability due to the small number of patients who suffer from primary valvular incompetence. The vast majority of patients with valvular incompetence have either post-thrombotic valvular damage or primary valve agenesis precluding repair. Selected patients with these conditions may be candidates for valve transposition although the long term results appear mixed at best.[15]

Recurrent venous ulcers following surgery are a particularly vexing problem and tend to occur in patients with bilateral disease and who have previously undergone femoral vein ligation.[25] Other contributing factors for recurrence after surgery include outpatients that require continuous standing, poor hygiene, poor compliance with compression, and obesity.[18] DePalma has reported remarkable non-recurrence rates after his modification,[7] while other authors have not had as good of success.[19,25] Cikrit reported recurrence rates after subfascial ligation to be greater than 20 percent,[18] and Robison even higher rates.[25] Despite mixed results, sub-fascial ligation of perforating veins for venous ulcers refractory to nonoperative therapy remains the best definitive therapy.

CONCLUSION

Future advances on the horizons in the management of venous insufficiency and venous ulcers will come with better understanding of venous physiology and pathophysiology, a better understanding of valvular mechanics and perhaps the development of new prosthetic valves, as well as the restoration and maintenance for valvular competence. Until these advances arrive, however, therapy for this vexing problem will continue to include external compression with sub-fascial ligation reserved for failures of non-operative therapy. ❐

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TUBERCULOSIS AND AIDS IN SOUTH CAROLINA: A CASE-CONTROL STUDY*

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Tuberculosis and AIDS are major public health problems in South Carolina. The state has the sixth highest tuberculosis case rate in the United States. Since national reporting of tuberculosis was established in 1953 in the United States, the first increase in tuberculosis case rate was observed in 1986.[1] In that year South Carolina was ranked second in tuberculosis case rates in the United States.

The number of AIDS and HIV cases is increasing. Unlike the national trend, in South Carolina blacks have a higher case rate for AIDS and HIV infection than whites.[2] In spite of its small population the state is ranked 28th in the nation in terms of cumulative number of AIDS cases.[3] South Carolina is one of several states in the United States that require mandatory reporting of HIV seropositive cases by name.[4]

Previous studies on the epidemiology of tuberculosis and AIDS have been conducted in urban areas of New York, Connecticut and Florida,[5-7] which have high endemicity for AIDS and tuberculosis.

The purpose of this study was to determine the epidemiologic features of tuberculosis patients with and without HIV antibody in South Carolina whose counties are predominantly rural and endemic for tuberculosis.

METHODS

The majority of the 46 counties in South Carolina are rural. The South Carolina Department of Health and Environmental Control (DHEC) has separate registries for HIV/AIDS and tuberculosis. The tuberculosis registry keeps records of all confirmed and suspected cases of tuberculosis reported from a variety of sources in the state. Confirmed cases are those that meet the Centers for Disease Control (CDC) case definition of tuberculosis and suspected cases are those whose clinical signs, symptoms, tuberculin test, acid-fast bacilli smear, and chest X-ray are sufficiently suggestive of tuberculosis to warrant initiating antituberculosis therapy. The HIV/AIDS registry keeps records of all persons who have AIDS or have tested positive for HIV antibody in South Carolina.

The study population consisted of tuberculosis patients with known HIV status. It included both confirmed and suspected cases of tuberculosis from August 1987 to March 1991. The state central laboratory in Columbia provided the list of all those who had been tested for HIV antibody. The cases included all tuberculosis patients with AIDS or HIV infection. Controls were randomly selected from among tuberculosis patients with HIV negative antibody.

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Tuberculosis related information was derived from the tuberculosis registry; and additional data related to HIV/AIDS were derived from the HIV/AIDS registry.

RESULTS

In August 1987, when the Centers for Disease Control established the revised AIDS surveillance case definition, the Tuberculosis Control Division at the South Carolina Department of Health and Environmental Control initiated voluntary HIV antibody testing for all tuberculosis patients in the state. In this study, 163 tuberculosis patients were studied. Eighty-five were cases (HIV antibody positive) and 78 were controls (HIV antibody negative). Of the 85 cases, 51 had been diagnosed with AIDS and 34 had HIV infection. Their ages ranged from 15 to 90 with a mean age of 42 years for both groups.

The demographic characteristics of the study population are shown in Table 1. Cases were younger than controls. The majority of the cases (76.5%) were in the age group 25-44 years old. Over 80 percent of cases were male as compared to 55 percent of the controls. Blacks constituted the majority of both the cases and controls; subjects lived largely in urban areas.

The clinical features of the tuberculosis patients in this study are shown in Table 2. Pulmonary tuberculosis was the predominant site in both groups. Extrapulmonary tuberculosis regardless of having a pulmonary site was more frequent among the cases (42%) than the controls (23%). The most frequent extrapulmonary sites among the cases and controls were the pleura and the lymphatic system. Miliary extrapulmonary tuberculosis was found only among cases.

Laboratory and radiologic features of these tuberculosis patients are presented in Table 3. There was a high frequency of positive cul-

TABLE 1
DEMOGRAPHIC FEATURES OF TUBERCULOSIS PATIENTS BY HIV STATUS (N=85 CASES, N=78 CONTROLS)

Features	Cases (HIV Positive)		Controls (HIV Negative)	
	N	%	N	%
Age (years)				
<25	5	5.88	8	10.26
25-44	65	76.47	34	43.58*
>44	15	17.65	36	46.15*
Gender				
Male	72	84.71	43	55.13*
Female	13	15.29	35	44.87
Race				
White	13	15.29	15	19.23
Black	70	82.35	12	79.49
Other	2	2.35	1	1.28
Area of Residence				
Urban	53	62.35	52	67.53
Rural	32	37.65	25	32.47

*$p < 0.05$

TABLE 2
CLINICAL FEATURES OF TUBERCULOSIS PATIENTS
BY HIV STATUS (N=85 CASES, N=78 CONTROLS)

Features	**Cases (HIV Positive)**		**Controls (HIV Negative)**	
	N	**%**	**N**	**%**
Site				
Pulmonary only	49	57.65	59	76.62*
Extrapulmonary only	15	17.65	11	14.29
Pulmonary and Extrapulmonary	21	24.71	7	9.09*
Extrapulmonary Site				
Pleural	13	35.14	11	57.89
Lymphatic	9	24.32	5	26.32
Miliary	4	10.81	0	0.00
Meningeal	2	5.41	0	0.00
Cervical	1	2.70	0	0.00
Genitourinary	1	2.70	0	0.00
Peritoneum	1	2.70	0	0.00
Soft Tissue	1	2.70	1	5.26
Bone/Joint	0	0.00	1	5.26
Other	5	3.53	0	0.00

*$p < 0.05$

tures for tubercle bacilli among both the cases (92.8%) and controls (85.9%). The two groups were not very different in their acid-fast bacilli test. The positivity of the test was less than 50 percent in both groups. More cases (32.9%) had negative tuberculin tests than controls (12.8%). The sputum was the most common source for the tubercle bacilli culture in both groups. Non-sputum source was more frequent in the cases than the controls. In both groups the sputum conversion time was mostly less than three months duration.

The diseases indicative of AIDS among tuberculosis patients with AIDS are presented in Table 4. Extrapulmonary tuberculosis was the most common AIDS-defining disease in these patients. This was followed by esophageal candidiasis.

DISCUSSION

In this study there was a high degree of overlap of tuberculosis and HIV infection among blacks. Whereas blacks make up one third of the population in South Carolina, they constitute two-thirds of the tuberculosis patients.

Also, blacks have a higher proportion of AIDS and HIV infection than whites,[2] contrary to the national trend.[3] The high degree of overlap of these two diseases in the black population in the state deserves attention, especially by physicians and public health workers. It seems likely that HIV-related tuberculosis will increase in the black population in the future. Therefore, it is very important that the tuberculosis control programs in the state continue to strengthen their preventive and treatment services in the black community, since blacks are at the highest risk for both tuberculosis and AIDS. It has been indicated in another study[5] that the degree to which these two infected populations overlap is a critical factor in determining the number of future tuberculosis cases that will develop among HIV-infected persons. Since tuberculosis is highly communicable, the likelihood that it will spread to the general population will increase if it continues to increase in the black population.

TABLE 3
LABORATORY AND RADIOGRAPHIC FEATURES OF TUBERCULOSIS PATIENTS BY HIV STATUS
(N=85 CASES, N=78 CONTROLS)

Features	Cases (HIV Positive)		Controls (HIV Negative)	
	N	%	N	%
Culture for Tubercle Bacilli				
Positive	78	91.76	67	85.90
Negative	5	5.88	10	12.82
Unknown	2	2.35	1	1.28
Acid-fast Bacilli				
Positive	36	42.35	33	42.31*
Negative	40	47.06	40	51.28*
Unknown	9	10.59	5	6.41
Tuberculin Test				
Positive	45	52.94	62	79.10*
Negative	28	32.94	10	12.82*
Unknown	12	14.12	6	7.69
Culture Source				
Sputum	54	69.23	53	79.10
Non-sputum	24	30.77	14	20.90
Sputum Conversion Time				
<3 months	60	76.92	62	72.94
3-6 months	15	19.23	16	18.82
>6 months	3	3.85	7	8.24
Chest X-ray				
Normal	8	9.42	8	10.26
Abnormal-cavity	21	24.71	20	25.64
Abnormal-noncavity	53	62.35	49	62.82
Unknown	3	3.53	1	1.28

*$p < 0.05$

Tuberculosis patients with AIDS or HIV infection were found to be younger and predominantly in the age group 25-44 years old. This is similar to findings in previous studies [5-7] and is not surprising, since this age group has the highest risk for HIV infection. Similarly, the majority of the cases in this study were males. Males also represent a higher proportion of persons with HIV infection than females.[2] Similar to previous studies in New York[5] and Florida,[7] persons living in urban areas are at the highest risk for both tuberculosis and HIV infection. It was found in this study that the majority of those persons with tuberculosis who have HIV/AIDS were found to live in urban areas, but this difference was not statistically significant.

Extrapulmonary tuberculosis was common in patients with both tuberculosis and AIDS. However, the frequency was relatively low in this study, in which only 42 percent had extrapulmonary tuberculosis. Extrapulmonary tuberculosis has been found to occur in about 50 to 70 percent of patients with tuberculosis and AIDS[8] but in only 24 to 45 percent of patients with tuberculosis and less advanced HIV infection.[9] It appears that extrapulmonary tuberculosis was more common in patients with more severe HIV-induced immunosuppression.[10] In this study, when the cases were separated into those with AIDS and HIV infection, it was found that tuberculosis patients with AIDS had more extrapulmonary tuberculosis than those with HIV infection.

TABLE 4
DISEASES INDICATIVE OF AIDS AMONG TUBERCULOSIS PATIENTS WHO HAVE AIDS (N=51)

Disease	N	%
Extrapulmonary Tuberculosis	17	34.00
Esophogeal Candidiasis	12	24.00
Pneumocystis Carinii Pneumonia	6	12.00
Wasting Syndrome	3	6.00
Cryptococcosis	3	6.00
Mycobacterium Avium Intracellulare	2	4.00
Cytomegalovirus Infections	2	4.00
HIV Encephalopathy	1	2.00
Kaposi Sarcoma	1	2.00
Lymphoma	1	2.00
Toxoplasmosis	1	2.00
Other	2	4.00

The reported frequency of extrapulmonary tuberculosis also depends on the extent of diagnostic evaluation of extrapulmonary sites.[10] The relatively low frequency of extrapulmonary tuberculosis in tuberculosis patients in this study may be either because the majority of the patients had tuberculosis before the AIDS-defining disease or extensive diagnostic evaluation of extrapulmonary sites may not have been done since suspected and confirmed cases were included.

The most common extrapulmonary sites among the cases in this study were the pleura, lymphatic system, and miliary. None of the tuberculosis patients without AIDS or HIV infection had a miliary extrapulmonary site. In the study by Pitchenik et al.[8] the most frequent sites in tuberculosis patients with AIDS were lymph nodes, whereas pleura was the most common site among tuberculosis patients without AIDS. In the study by Theuer et al.,[9] lymph nodes and the genitourinary system were the most frequent extrapulmonary sites of disease in HIV antibody positive tuberculosis patients, while pleura and meninges were the most frequent extrapulmonary sites in HIV antibody negative tuberculosis patients. It seems that the frequency of extrapulmonary sites varies from population to population and may likely depend on the extent of diagnosis of extrapulmonary sites.

It is not clear why there is not a large difference in the chest radiographs between the two groups. Noncavitation abnormality was more frequent in both groups than abnormal cavitation. It has been found very consistently in other studies[5-7] that abnormal cavitation is less prevalent in patients with tuberculosis and HIV/AIDS than in those with tuberculosis alone.[11] The chest radiograph manifestation of pulmonary tuberculosis is also believed to correlate with the degree of HIV-induced immunosuppression.[10] In this study, the degree of immunosuppression of the subjects was not evaluated since indicators of immunosuppression such as CD4 count were not available in the HIV/AIDS registry.

The sensitivity of the culture tests was high in both groups. It was slightly higher in cases than controls. This small difference is probably due to the fact that the cases had more extrapulmonary sites and thus more of their culture was derived from a non-sputum source, which is more likely to be positive for tubercle bacilli. The acid-fast bacilli test was positive in about 42 percent of patients in both groups. In other studies,[12-14] the acid-fast bacilli sputum smear has been found to be positive in 31 to 82 percent of patients with HIV infection who had pulmonary tuberculosis. Klein et al.[15] concluded from their study that acid-fast bacilli sputum smear is a relatively insensitive test for pulmonary tuberculosis in AIDS patients. Other researchers believe that the sensitivity of the acid-fast bacilli depends on the degree of immunosuppression in the HIV-infected patient. In less severely immunocompromised patients, the sensitivity of the acid-fast bacilli is similar to that of immunocompetent adults with a reactivation tuberculosis.[9] In more severely immunocompromised HIV-infected patients the sensitivity of acid-fast bacilli sputum smear is lower than in immunocompetent adults.[9]

This study also confirmed some of the difficulties in diagnosing tuberculosis in patients who develop AIDS before tuberculosis. The tuberculosis patients with AIDS or HIV infection had more tuberculin negative results than the tuberculosis patients with HIV negative antibody. This is consistent with previous studies.[5-9] Immunosuppression by HIV infection causes anergic reaction to the tuberculin test. Pronounced reactions to tuberculin require a more vigorous cell-mediated immune response, and in patients with HIV infection such responses are probably less likely to occur.[13]

The sputum conversion time is less than three months for a majority of the cases and the controls. This short conversion time even among the cases may be due to the favorable response to antituberculosis therapy by patients with both AIDS and tuberculosis. Chaisson et al.[16] reported that all AIDS patients with pulmonary tuberculosis showed culture conversion from positive to negative within three to 10 months after the initiation of antituberculosis therapy.

SUMMARY

The epidemiologic features of tuberculosis patients with AIDS or HIV infection in this study do not appear to be different from those reported from previous studies. Tuberculosis patients with AIDS or HIV positive antibody in South Carolina are predominantly black males who live in the urban areas and are 25 to 44 years old. They have more extrapulmonary sites and more anergic reactions to tuberculin tests.

Physicians and other public health workers should be aware of the abnormal clinical and laboratory manifestations of tuberculosis patients with AIDS and HIV infection. It is also imperative for tuberculosis control programs to offer counseling and HIV antibody testing to tuberculosis patients. ❒

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FACTORS WHICH DISCRIMINATE RURAL AND URBAN FAMILY PHYSICIANS PRACTICING IN SOUTH CAROLINA*

PHILIP J. MICHELS, PH. D.**
CARLTON A. HORNUNG, M. P. H., PH. D.
JAN UPDIKE, M. D.
DAVID SHERIDAN, M. D.

A shortage of primary care physicians in rural and underserved areas has been a concern for both federal and state policy makers.[1-3] This shortage of physicians has created major access problems for many rural populations.[4]

A variety of programs have been developed to correct this problem.[5-19] Despite efforts, the situation hasn't changed.[20,21] Multiple strategies have been attempted in South Carolina to increase the number of primary care physicians in rural and underserved areas.[3]

Researchers have surveyed physicians to determine historical, attitudinal, and familial factors which influence the determination of practice location.[5-19] Findings, which predict those physicians predisposed to rural practice, could be used to screen applicants in residency training programs. Selection could promote a more balanced distribution of practitioners throughout the state.

The present study sought to cross-validate historical and attitudinal variables which discriminate South Carolina Family Physicians who practice in rural and urban areas. Establishing self-report discriminators could aid the selection practices of primary care residencies by better predicting the likelihood that a resident will practice in a rural area.

METHODS

In December, 1990 a questionnaire was mailed to each of 100 graduates of the USC/RMH Family Medicine training program. A follow-up mailing four months later to non-respondents resulted in an overall return of 73 resident alumni (73%) completed questionnaires. These surveys queried each physician's reasons for selecting specialty and residency training site, factors affecting his/her choice of a community in which to practice, characteristics of current practice, and satisfaction with the practice of family medicine in general and with the community of practice in particular.

Most answers were recorded on 5 point likert type scales and subsequently collapsed into two categories for statistical purposes. Frequencies, chi squares and analyses of variance were analyzed on a number of resident questionnaire items as a function of rural vs. urban practice locations.

RESULTS

Among the 100 family physicians who had graduated from the program as of 1990-1991, 56 percent are currently practicing in South Carolina. Of these physicians 66 percent returned completed questionnaires. Of these 37 alumni, 28 (76%) are in office-based practice in South Carolina and define the study sample for this report. Eighty-nine percent of the sample are men with a mean age of 35 years and a mean number of years in practice of 5.6 with a range of one to 12 years.

Rural and urban practice location designations were determined by reference to the 1990 U. S. Department of Agriculture's Rural/Urban Continuum Codes for Metro and Non-Metro Counties. Thirty-eight percent (N =11) practice in towns of less than 10,000 people and represent the rural sample for this report.

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About 50 percent of these physicians decided where to practice during residency; another 25 percent decided where to practice after residency. More than half (55%) of the physicians who practice in rural communities compared with 31 percent who practice in urban communities ($p < .05$) were actively recruited to establish their medical practice.

"Having an option to practice in a rural community," ($X^2 = 8.49$, $p < .003$) was rated "Important" in deciding to become a family physician by a significantly higher percentage of rural family physicians. Likewise, the variable, "Rural lifestyle" ($X^2 = 5.99$, $p < .01$), significantly discriminated the groups as an "Important" factor in community selection. This is not surprising and has been reported elsewhere.[11] Perhaps many of these physicians committed to rural practice chose Family Medicine as a way to provide comprehensive rural care.

Regarding practice characteristics, rural family practice alumni in South Carolina are significantly more likely to accept fee for service only ($X^2 = 4.50$ $p < . 03$) and admit to only one hospital ($X^2 = 7.34$, $p < . 01$), and are more likely to assume more night calls ($F = 2.33$, $p < .14$), to accept new Medicare ($X^2 = .95$, $p < . 33$) and new Medicaid ($X^2 = 4. 50$, $p < . 03$) patients compared to urban practicing alumni. A higher percentage of these rural physicians report frequently seeing pediatric patients ($X^2 = 1.62$, $p < . 20$) averaging 15.8 hours/week vs 6.9 hours/week, geriatric patients ($X^2 = .96$, $p < .33$), averaging 17.1 hours/week vs 8.1 hours/week, psychiatric patients ($X^2 = 2.67$, $p < . 10$), and pulmonary patients ($X^2 =1.35$, $p < .24$). The greater demands inherent in rural practice are well documented.[5,10,12]

Rural alumni report living significantly closer to the community where they grew up ($F = 5.73$, $p < .02$). This trend is well known.[4,8,9,12] Likewise, the large percentage of our alumni (56%) who reside in a location near residency training replicates other studies.[7,9,10,13,22]

The higher percentage of rural physicians who rate the following factors as "Important" in choosing a community to reside reached marginal significance and cross validates earlier reports: "Geographic region of the country" ($X^2 = 3.38$, $p < .06$),[7] "Financial assistance for starting a new practice" ($X^2 = 2.53$, $p < .11$),[3] "Proximity to my spouse's family" ($X^2 = 2.80$, $p < .09$),[9] and "Doing Obstetrics ($X^2 = 2.50$, $p <.11$).[12]

This study also revealed new findings. South Carolina rural family physicians placed more emphasis on "Standard of living from practice in the community," ($X^2 = 4.41$, $p < .04$) and "Cost of living in the community" ($X^2 = 4.50$, $p < . 03$). Rural physician concern with finances may partially explain the higher percentage of these physicians who accept fee for service only and accept new Medicare and Medicaid patients. Similarly, a higher proportion of our rural alumni placed "Importance" in "Financial assistance for starting a new practice" ($X^2 = 2.53$, $p < .11$). This barrier to practice underscores the need for subsidizing rural practice.[3]

"Proximity to specialized medical care for the family" ($X^2 = 4.50$, $p < . 03$) and "Other physician to share patient coverage," ($X^2 = 2.45$, $p < .12$) relate to access and distribution shortages in rural areas. Physicians are more preoccupied with access to professional and personal services when practicing in rural areas.

Finally, "Emphasizing the pathophysiology of disease" was rated by rural practitioners as more important in their decision to become family physicians than by urban practitioners. Rural physicians may compensate for a lack of nearby medical consultants[10] with this emphasis.

DISCUSSION

Caution is recommended in the interpretation of these findings. Shortcomings include the cross-sectional, retrospective, and self-report nature of this study and the small sample size. Yet, these data corroborate earlier findings and extend them.

These findings which discriminate rural and urban family physicians in South Carolina could be incorporated into a residency admissions questionnaire to better predict those applicants who will most likely practice in the rural areas of the state. Such a screening process could promote a balanced distribution of physicians throughout our state, a long sought need in South Carolina.

SUMMARY

A sample of 28 rural and urban private practicing family physicians was compared on a number of attitudes and practice characteristics based on results from a mailed questionnaire. Results cross-validated previous findings and provided new ones. A number of self-report discriminators are discussed to better predict which physicians will locate in rural areas. ❐

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Editorials

THE WHITE PLAGUE RETURNETH

In this issue of *The Journal*, Dr. Francisco Sy and his colleagues report a case-control study of tuberculosis patients in South Carolina with and without co-infection by the human immunodeficiency virus (HIV). HIV-positive tuberculosis patients were disproportionately black, younger, more likely to be tuberculin-negative, and more likely to have extrapulmonary disease. Confirming observations made elsewhere,[1] these data add to a growing national concern: tuberculosis—the white plague—seems poised for a comeback.[2] What are the issues and what can be done? Let us examine three areas: (1) the grounds for concern; (2) the features of tuberculosis in HIV-infected patients; and (3) what the "new tuberculosis" holds for physicians and public health officers.

First, the grounds for concern. Until recently, there was little reason to think that tuberculosis would remain a public health problem much longer, at least in the developed countries. Through 1985, the number of cases of clinical tuberculosis in the United States was declining steadily by five to seven percent each year. The Centers for Disease Control optimistically proposed a Program for Elimination of Tuberculosis (by "elimination" it was meant that tuberculosis would be reduced to the status of a rare disease, no longer a public menace). Since 1985, however, the decline has been reversed. Between 1985 and 1991, there were 39,000 excess cases—"excess" in the sense that they would not have occurred at the previous rate of decline.[3] Still, so what? Isn't tuberculosis easily diagnosed and cured? And aren't these excess cases largely explained by the AIDS/HIV epidemic?

Mark well this abbreviation: MDR-TB (for "multidrug-resistant tuberculosis"). The Centers for Disease Control has investigated at least six outbreaks of MDR-TB at hospitals, all of them strongly associated with HIV infection.[4] In HIV positive patients, MDR-TB infection carries a high mortality (up to 89 percent) and kills rapidly (median interval from diagnosis to death, four to 16 weeks). These strains do not appear to be more virulent than other strains of *M. tuberculosis*, nor do they seem to be more likely to cause clinical disease (of which the lifetime risk for tuberculin-positive persons is about 10 percent). However, the cure rate for MDR-TB in persons with normal immune systems is no greater than 50 percent, even in the best hands. Moreover, *tuberculosis is the only major infection which can be transmitted from HIV-positive to HIV-negative persons in the absence of sex or blood exposure.* The worst case scenario is this: HIV and MDR-TB, acting in concert, could restore the white plague to its former status as the major cause of premature death among previously healthy adults.

Second, the clinical features of tuberculosis in HIV-infected patients. HIV-infected patients are much more likely to develop clinical tuberculosis whether from reactivation of previous *M. tuberculosis* infection or acquisition of new infection (progressive primary tuberculosis). HIV-positive persons are also less likely to present with classic, upper lobe cavitary pulmonary disease. There is a widespread impression that the more advanced the HIV infection, the less usual the clinical presentation of tuberculosis. Put differently, there seems to be an inverse relationship between the CD4 lymphocyte count and the likelihood of cavitary pulmonary disease as opposed to non-specific pulmonary infiltrates, unexplained fevers, and a host of subtle and bizarre presentations. These include intrathoracic lymphadenopathy, serosal tuberculosis (meningitis; pericarditis; peritonitis), and the numerous syndromes (e.g., brain abscess) by which tuberculosis earned its reputation as a great masquerader. For these reasons, tuberculosis in HIV positive patients often goes undiagnosed. This should be of great concern to all of us—for the patients, and for others (including all health care workers).

Finally, the implications. The most urgent need is for better technology; we are fighting with outdated weapons.[5] There are serious reservations about our traditional means of diagnosis: the tuberculin skin test, the AFB smear, and the AFB culture. The skin test has never been standardized for case diagnosis (as opposed to epidemiologic surveys). Hence, the recommendation that 5 mm of induration should be considered significant in HIV-positive persons comes as no surprise. The AFB smear is fraught with false-negative and false-positive results. Many persons with positive AFB smears, and especially HIV-positive patients, are colonized or infected by nontuberculous mycobacteria rather than *M. tuberculosis*. The AFB culture takes too long. Up to six months can elapse between collection of a specimen and the final reporting of species identity and drug susceptibility results. Better weapons are being developed: purified antigens; monoclonal antibodies; rapid diagnostic methods such as the polymerase chain reaction[6] and a novel luciferase assay using reporter phage; and newer drugs. Meanwhile, we must use what we have.

The first desideratum is to maintain a high index of suspicion of tuberculosis. Consider tuberculosis in any patient with an unexplained pulmonary infiltrate (Figure). Be liberal about instituting respiratory isolation and obtaining AFB smears and cultures. In HIV-positive persons, it is often useful to obtain AFB blood cultures and to be liberal about obtaining bone marrow aspirates for AFB and fungal culture. Perform tuberculin skin tests in patients at risk, and offer preventive thera-

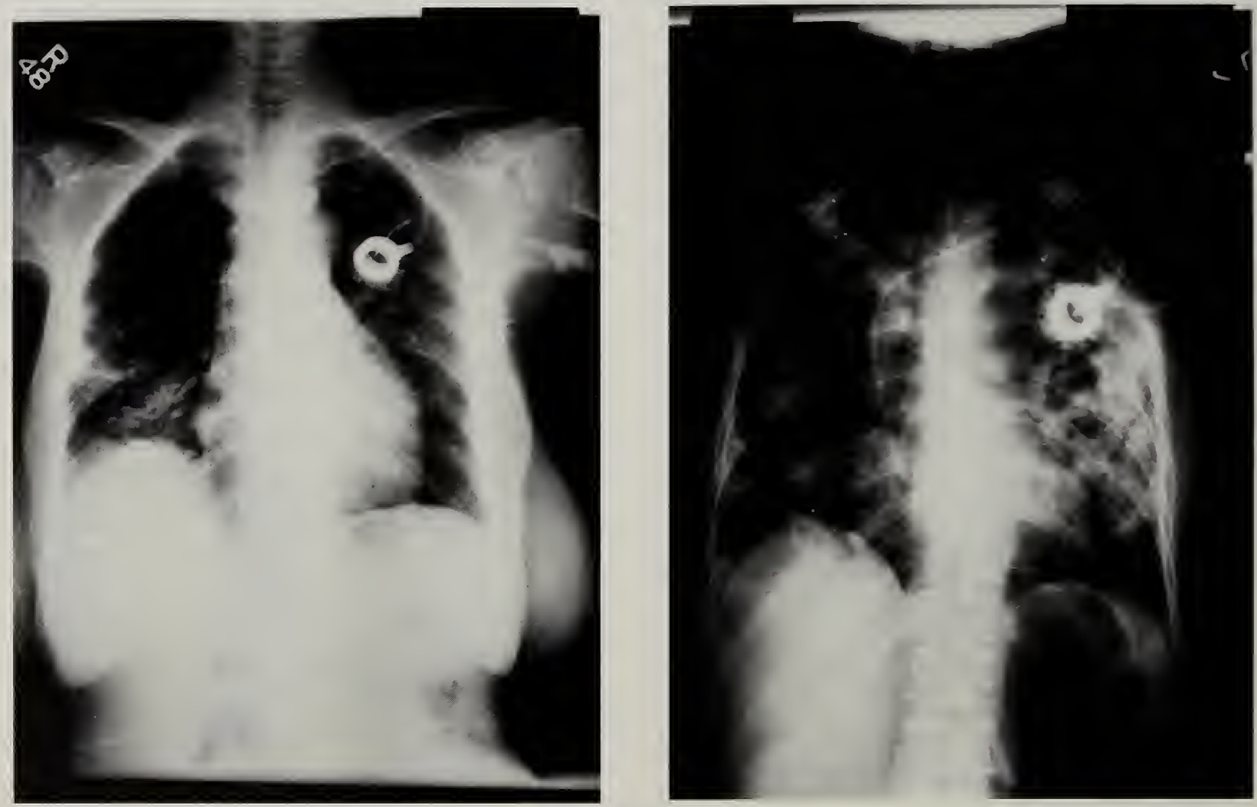

Figure. The nonspecific-looking right lower lobe infiltrate (left) was later proven to have been due to tuberculosis. Before far-advanced tuberculosis (right) had been diagnosed and treated, 42 health care workers had been exposed to this immunocompetent patient.

py (INH for six to 12 months) for "high priority candidates with positive results. These include HIV-positive persons; close contacts of persons with active pulmonary tuberculosis; recent skin test converters; and persons with medical conditions known reported to increase the risk of tuberculosis (such as corticosteroid and immunosuppressive drug therapy; hematologic neoplasms; recent weight loss; end-stage renal disease; IV drug use; and diabetes mellitus).

The second desideratum is to treat tuberculosis appropriately. Treatment recommendations have recently changed; the preferred regimen for most patients now consists of a two-month induction phase with INH, rifampin, and pyrazinamide (PZA) followed by a four-month continuation phase with INH and rifampin for four months. It has been suggested that ethambutol (EMB) or streptomycin should be included in the induction regimen "unless there is little possibility of primary resistance to isonazid."[3] The growing complexity of tuberculosis chemotherapy regimens reflects our collective failure (physicians, patients, and the health care delivery system) to use technology appropriately and wisely. Which brings us to our final desideratum.

We must coordinate private and public efforts to the fullest possible extent. Any tuberculosis control nurse will summarize the major problem with one word: compliance. The usual cause of treatment failure and drug resistance (including MDR-TB) is failure of patients to take their medications as prescribed. Although institutionalized care of the tuberculous-infected might be today's best remedy for this societal problem, it is probably politically unacceptable in 1993. We must do whatever is takes to keep MDR-TB from becoming a major health problem here in South Carolina. As in so many areas, we must communicate and work together.

—CSB

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Letters to the Editor

To the Editor:

I appreciate Dr. Lawton and Zwerling's comments in the September 1992 *Journal of the South Carolina Medical Association* on the problems of prescription drug abuse. Dealing with prescription drug abuse can be a frustrating problem that practicing physicians encounter on a regular basis. The article was very practical in its approach and offered helpful and timely advice. I would like to add two comments:

1. It is important for us as physicians to recognize that our patients who are most likely to have problems with prescription drug abuse are those who have already had demonstrated addictions to alcohol or other drugs.[1] It makes sense to treat prescription drug abuse as an adverse drug reaction just as we would any other drug reaction. By that I mean we would not consider prescribing penicillin to patients without asking first if they had problems with penicillin allergy. In the same way I think it is prudent to ask about alcohol and other drug addiction problems prior to prescribing potentially addictive medications. A simple way to do this is to use the CAGE questions which have been proven to be reliable in helping screen for alcoholism and can be easily modified to ask about drug addictions.[2] The CAGE questions are:

C. "Have you ever **C**ut down on your drinking?"

A. "Have people **A**nnoyed you by criticizing your drinking?"

G. "Have you ever felt **G**uilty about your drinking?"

E. "Have you ever had a drink in the morning (**E**ye-opener) to steady your nerves or get rid of a hangover?"

Two positive CAGE questions has a positive predictive value of about 85 percent for alcoholism.

We need to recognize addictions as chronic diseases that don't just disappear with abstinence. We do our patients with a history of addictions a disservice by prescribing potentially addictive medications and expecting them to be able to control their use of these substances.[3]

2. The other comment is that the four **D**'s (**D**ated, **D**uped, **D**ishonest and **D**isabled) probably do not adequately describe the major characteristics of physicians who have problems with inappropriate prescribing. Kofoed, et al. described 130 physicians who were investigated for inappropriate prescribing by the Oregon Board of Medical Examiners.[4] They found that the majority of these physicians did not fit well into any of the four **D** categories. They described the majority of these physicians as "pseudo-benevolent overprescribers" who have a subtle psychological vulnerability to overprescribe. These physicians were characterized by four factors:

1. A strong and deeply felt need to help.
2. A touch of grandiosity and omnipotence typified by statements like, "Only I am capable of helping or likely to help this patient."
3. An orientation towards immediate symptom relief that overshadows the consideration of long term consequences.
4. An inability to handle his or her own feelings if the treatment that could provide immediate relief is withheld.

These physicians also tended to be patient advocates and had a tendency toward expedience in the service of what the physician thinks the patient needs. I'm sure that most of us in primary care can identify some of these factors in ourselves and realize that we all from time to time probably do contribute to prescription drug abuse problems. Policing ourselves is probably a more important factor to prevent prescription drug abuse than policing our patients in an effort to identify the "con." We as physicians have to learn to "just say no" to patients in appropriate circumstances even at the risk of our own discomfort or our patients' anger.

Again, the article on proper prescribing practices was timely and practical and much appreciated.

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On the Cover:

DRAYTON MARGART CROSSON, M. D., 1858-1936
PRESIDENT, SCMA, 1925

D.M. Crosson was born in Prosperity on September 29, 1858. He was educated in the public schools of Prosperity, and attended the Prosperity Academy, Erskine College, and the Medical College of the State of South Carolina before graduating in 1883 from the Medical Department of the University of Nashville (now University of Tennessee) with first honors.

Dr. Crosson practiced medicine for 10 years in Lewisdale, South Carolina, before moving to Leesville where he spent the rest of his very successful career. A leading physician and surgeon, Dr. Crosson was for years also the largest planter in Lexington County. Around 1920, he broke up and sold his holdings to several small farmers, feeling that this would be best for the county.

His expertise in financial matters was considerable and he was the president of the Farmers and Merchants Bank in Leesville.

In addition to his busy practice and farming interests, he always found time to participate in community affairs. He was mayor of Leesville for six terms before refusing to run for a seventh, and served three terms in the state senate where he was an influential legislator. He was the first advocate of paved roads across the state and is considered the father of the automobile license law. He stood always for high standards in medicine and fought against quackery and the licensing of various cults in the state. He advocated progressive advances in agriculture and identified closely with every leading farm movement of his county and state.

Dr. Crosson died on July 16, 1936 and is buried in the Leesville cemetery.

Betty Newsom
The Waring Historical Library

Auxiliary Page

MEMBERSHIP—1993 AND BEYOND

Several things caught my attention in 1992—the A.M.A. Auxiliary became the Alliance; Dean Humphries, U. S. C. School of Medicine, reported one-third of the classes are female; Marian McKee, Richland Membership Chairman., says half of the prospective membership is male; and the average medical family coming into practice is two-career, sharing child care, and with very limited time to give to volunteer work. The first one was of interest to our S. C. delegation this June in Chicago at the House of Delegates annual meeting. The last ones should concern all membership chairmen here in South Carolina, since this the face of our future membership challenge—1993 and beyond.

Twelve years ago, our county auxiliary was formed with wives of our hospital physicians. Most were college-educated but staying at home to raise young families and joining auxiliary to meet others and support their husbands' work By the mid-1980s, most had returned to school and careers, three to law school. About the same time, we welcomed our first male spouses, and today, we have several physician couples and an attorney active in fundraising and health projects.

The latest issue of *Newsline* reports the results of a poll of 1,100 male auxiliary members concerning needed improvements: evening meetings, more general interest programs, better communication, and better hospitality. Working with interested spouses who work is to the auxiliary's advantage, as we celebrate our 70th anniversary of service this April at state convention. With our A.M.A.A. president in attendance, we will be debating and voting on the question of the proposed name change.

Under the able leadership of President Hope Grayson, the 24-county, 1,603-membership can be proud of our past, present and future in S.C.M.A.A., as we continue supporting education and communication with the public, and health projects. From Central Region, I wish the S.C.M.A. and S.C.M.A.A. a banner year.

Brenda T. Cate
Central Regional Vice President

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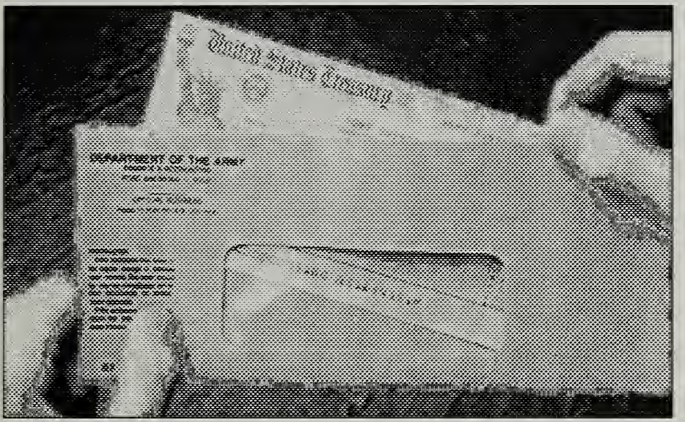

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ERRATUM

Through an oversight, the names of the guest editors of the January, 1993 issue were not included on the front cover and the contents page.

Our apologies to Mrs. Betty Newsom and W. Curtis Worthington, Jr., M. D., who did such a splendid job in organizing and editing the January, 1993 special issue on "Pioneer Women Physicians in South Carolina."

INFORMATION FOR AUTHORS

The mission of *The Journal* is to advance the art and science of medicine; to promote the ideals of the South Carolina Medical Association; to encourage scholarship and good will among South Carolina physicians; and to disseminate information specifically applicable to the health care of South Carolinians.

We encourage original articles and letters to the editor of potential benefit and interest to the members of the South Carolina Medical Association.

CORRESPONDENCE: All manuscripts and correspondence should be addressed:

The Editor
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The above takes into account *The Copyright Revision Act of 1976*, effective January 1, 1978. We request authors to advise the editor of any prior or anticipated duplication of their work in other publications. Submission of material as a "companion article" to material submitted elsewhere is discouraged.

PRIORITY FOR PUBLICATION: *The Journal* was founded in 1905 especially as a place for practicing physicians to publish their original observations. This purpose continues to receive priority. Growth of institutions, especially of medical school faculties, during this century may be, at least in part, responsible for a decreased tendency for practicing physicians to attempt scholarly work. Concerned about this trend, *The Journal* encourages practicing physicians to report original observations, including series of cases or individual case reports.

The Journal also welcomes timely review articles by institution-based physicians. However, it is the philosophy of the Editorial Board that state medical journals do not represent an appropriate forum for research findings of a specialized nature. Such findings, it is felt, belong in national or regional specialty or subspecialty journals. Articles by institution-based physicians should serve the information needs of a general physician readership.

Articles dealing with social, economic, and ethical issues are strongly encouraged. Historical or philosophical essays are also welcomed, although these are given lower priority compared to the above categories.

On account of both space limitations and also our desire to encourage scholarship by as many South Carolina physicians as possible, it is our policy to decline publication of more than two (2) manuscripts by one author or group of authors within any calendar year or 12-month period.

REVIEWING AND RESPONSIBILITY TO READERSHIP: We will make every ef-

TYPES OF ARTICLES ESPECIALLY WELCOMED FOR CONSIDERATION

1. Original scientific observations (including case reports) made by practicing physicians.
2. Concise, timely review articles (see "Priority for Publication").
3. Articles pertaining to current social, economic, and/or ethical issues affecting the practice of medicine.
4. Information uniquely pertinent to the health care of South Carolinians.

fort to review manuscripts promptly. All manuscripts will be reviewed by our editorial office, and when indicated the opinions of outside consultants will be solicited.

We welcome criticisms of journal content by members of the South Carolina Medical Association.

FINANCIAL DISCLOSURE: Upon acceptance of manuscripts for publication, we require disclosure of financial interest in pharmaceutical firms or other business enterprises when such disclosure seems to be appropriate to the editor or to members of the Editorial Board.

REPRINTS: These will be made available by the printer at established rates, at the time of mailing of galley proofs.

LENGTH OF ARTICLES: We prefer concise articles of approximately 2,500 words (approximately eight typewritten pages, double spaced), with no more than 10 references.

We regret that space considerations limit our ability to publish longer articles, and request that authors adhere to the above guidelines. Similarly, tables and illustrations (see below), should be kept to a minimum, and be specific and pertinent.

Authors desiring to make additional data or additional references available to readers are encouraged to do so by adding footnotes to the effect that "additional references (or tables derived from this data base, etc.) are available from the author(s) upon request."

MANUSCRIPTS: If available, these should be furnished on a 3 1/2" disk, with two typewritten hard copies. Otherwise, they should be typewritten, double-spaced, and on one side of the paper. The original and one copy should be submitted. The title page should indicate the title, author(s), author's address, and academic appointments, if any. We request that the author's name not appear on subsequent pages, to permit "blind" review of the article, when desired. Authors should retain one copy for use in proofing. Written correspondence concerning proposed (potential) manuscripts is welcomed.

ILLUSTRATIONS: These should be submitted as glossy, black and white prints no larger than a standard page; smaller prints are desired. Ordinarily, publication of four small illustrations or tables, or the equivalent, will be paid for by *The Journal*. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should not be mounted, stapled, or clipped. On the back side of each illustration, the article title, figure number, and top of figure (but not the author) should be noted lightly in pencil. Legends for illustrations should be typed on a separate sheet of paper.

REFERENCES: These should be cited consecutively in the text, in superscript, e.g., "Bottsford, et al.[3] ..." We recommend no more than 10 references, selected from more recent publications in accessible journals in most instances. Standard journal abbreviations should be used, with the style for journal article being as follows:
[3]Bottsford JE, Bearden RC, Bottsford JG; A ten year community hospital experience with abdominal aorta aneurysms. J SC Med Assoc 79:57-62, 1983.

SYMPOSIUM ISSUES: We welcome proposals for special symposium issues (See separate guidelines below).

GUIDELINES FOR GUEST EDITORS OF SYMPOSIUM ISSUES

BACKGROUND: Over the years, special issues have been a valued feature of *The Journal*. Several have attracted national attention and even won awards. Members of the South Carolina Medical Association continue to express their desire for special issues relevant to their practices.

Through experience, we have learned something about (1) what works best; (2)

what our readers want; and (3) what pitfalls to avoid. The purpose of these guidelines is to share these perspectives with prospective guest editors of symposium issues

CRITERIA FOR EVALUATION: Proposals for special issues are circulated to members of the Editorial Board for final decision. The following considerations should be addressed:

1. Is the topic of relevance or general interest to the majority of SCMA members? High priority is assigned to topics relevant to the practices of primary care physicians. Topics of interest primarily to specialists or subspecialists are discouraged. A number of symposium issues written *by* specialists *for* primary care physicians have been well-received. On an individual basis, topics of a more specialized nature are also considered especially when these pertain uniquely to South Carolinians or reflect events taking place in South Carolina.
2. Is the topic timely? Planning for symposium issues usually begins a full year prior to publication. Publication of similar symposium issues in national or regional journals does not preclude consideration for *The Journal of the South Carolina Medical Association*—provided, of course, that there is no overlap in authorship. Highest priority is assigned to topics of ongoing interest to primary care physicians or of broad general interest. Parenthetically, it has been *The Journal's* policy for many years to decline all proposals for regular or "serial" publications. We have permitted and even encouraged "update" symposia spaced several years apart, but we have declined suggestions that any topic be treated on an annual basis.
3. Does the issue promise to be a truly statewide effort? As a general rule, we have found the best working model to be a cooperative effort between (1) faculty members at both of our state's medical schools, (b) private practitioners, and/or (c) physicians or health authorities at state agencies—notably DHEC. A symposium issue should decidedly *not* be primarily the work of one or another author, clinic, institution or unit.
4. Does the issue hold the potential to promote cooperation and good will among South Carolina physicians? As a corollary to the previous desideratum, we feel strongly that the effort should promote such cooperation, reflecting a truly collaborative effort. When issues deal with one or another specialty or subspecialty, a "call for papers" issued to all potential authors creates a sense of opportunity for participation. In most instances, this is easily accomplished through existing specialty or subspecialty organizations. Prospective guest editors should not overlook senior physicians who have made large contributions to the area over the year. Historical perspectives or guest editorials by such physicians add both interest and credibility to the effort.

SPACE LIMITATIONS: *The Journal* operates on a restricted budget. As in the case for most state medical journals, printing costs exceed advertising revenues. Therefore, we can ordinarily accommodate no more than 40 pages of typed, double-spaced pages of manuscript per issue, with no more than 16 figures and/or tables. Guest editors of symposium issues must adhere to these guidelines unless additional funding is available.

GUEST EDITORSHIP: Each symposium issue should have one or more guest editors. In many situations, it is appropriate to have two or more guest editors, drawn from different sectors—for example from either or both of our medical schools and/or from among private practitioners.

Guest editors should (1) supervise planning of the issue; (2) correspond with potential authors and then with confirmed authors; (3) assure that manuscripts are received in a time-

President's Page

PATIENTS' FOUNDATION OF SOUTH CAROLINA

Last year, a 501C (3) Corporation (tax-free foundation) was set up to help pay for hospitalization of patients who could not afford hospital care. This foundation, by definition, also has an educational function. The members of this foundation board are Dan Brake, Tom Rowland, Walt Roberts, Frank Smith, and Andy Laurent.

Monies were collected from concerned physicians who contributed all or a portion of their 1992 policyholder JUA dividend. A total of $49,080.37 has been collected to date. Unfortunately, the greatest majority of JUA insured physicians did not take advantage of the opportunity last year.

At the JUA Board meeting on December 17, 1992, an additional policyholder dividend was voted for 1993. It is my sincere hope that this time around more JUA insured physicians will see fit to use all or a portion of this money for the hospital care of their deserving patients. After all, the money that pays the malpractice premiums came from our patients in the first place.

The only manner in which to access this foundation is for the treating physician to apply for a grant in aid. No other individual, hospital, or entity can apply.

Under a separate mailing, you will receive further information directly from the Patients' Foundation of South Carolina. Their address is: **PATIENTS' FOUNDATION OF SOUTH CAROLINA, Post Office Box 210917, Columbia, SC 29221.**

I implore you, the need is tremendous. Please be generous.

Bartolo Barone, M.D.

Bartolo M. Barone, M. D.
President

The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

Contents

Original Scientific Articles

111 **Liver Transplantation in South Carolina**
Joseph B. Cofer, M. D., Robert M. Galbraith, M. D., Melinda Bailey, M. D., Jonathan S. Bromberg, M. D., Ph.D., P. R. Rajagopalan, M. D., Charles T. Fitts, M. D., Joanne Conroy, M. D., Fred Wilson, M. D., Fred A. Crawford, Jr., M. D.

119 **Acute Renal Failure: Pathology and Prevention**
Arthur V. Williams, M. D.

131 **Anterior Cervical Diskectomy and Fusion in a Community Hospital Setting**
Michael N. Bucci, M. D., Janice Lanham, B. S., R. N., Saundra B. Long, B. A., Doris Philyaw, B. S., R. N.

Special Article

137 **Rebuilding a Hospital in a Developing Country**
Gerald E. Harmon, M. D., Samuel H. Schurig, D. O., Fred L. Pasternack, M. D.

Editorials

148 **Tasteful Advertising**
Charles S. Bryan, M. D.

149 **The Doctor-Patient Relationship**
Charles S. Bryan, M. D.

Features

153 **Auxiliary Page**
150 **On The Cover**
107 **President's Page**

Association

143 **CME Calendar**
147 **Erratum**
151 **Gray Matter**
127 **SCMA Newsletter**

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The Journal
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

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LIVER TRANSPLANTATION IN SOUTH CAROLINA*

JOSEPH B. COFER, M. D.**
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INTRODUCTION

The first liver transplant was performed in a human on March 1, 1963 by Dr. Tom Starzl in Denver, Colorado.[1] Liver transplantation developed slowly over the next 15 years because of problems with technical aspects of the surgery and the high morbidity and mortality associated with existing immunosuppressants. In the years following the first liver transplant, one-year patient survival was 20 to 30 percent.[2] In 1976 the drug Cyclosporin-A was first reported.[3] This drug was first used in humans for liver transplantation by Sir Roy Calne in England.[4] Shortly thereafter, Dr. Tom Starzl, then at Pittsburgh, reported the first large series of liver transplantation in humans using Cyclosporin-A.[5] Cyclosporin-A dramatically improved survival and this led to an increased number of liver transplants being performed. Also by this time the technical aspects of the operation had improved, leading to decreased operative mortality. In 1983, a NIH consensus conference was convened on the subject of liver transplantation and its conclusion was "that liver transplantation is a therapeutic modality for end stage liver disease that deserves broader application."[6] Following this the number of liver transplant programs in the United States expanded from one in 1982 to over 80 by 1990.[7]

---

*From the Departments of Surgery (Drs. Cofer, Bromberg, Rajagopalan, Fitts and Crawford), Medicine (Drs. Galbraith and Wilson) and Anesthesiology (Drs. Bailey and Conroy), Medical University of South Carolina, Charleston.

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HISTORY OF LIVER TRANSPLANTATION IN SOUTH CAROLINA

Organ transplantation in this state began in 1968 with the first kidney transplant performed by Dr. Tom Fitts at the Medical University of South Carolina (MUSC). Dr. Fitts was one of the early pioneers in solid organ transplantation following in the footsteps of Dr. Murray (Nobel Prize winner in Medicine, 1990), Dr. Tom Starzl, and Dr. David Hume. This development of the MUSC Kidney Transplant Program was followed by the first heart transplant in 1986 and the first bone marrow transplant in 1987 at MUSC. Following this, in 1988, a combined decision was made by the departments of Medicine, Surgery, and the Administration at MUSC to become a full service transplant center. Planning for the liver transplant program at that time began with the combined efforts of Dr. Will Lee, head of the Division of Gastroenterology, Dr. Fred Crawford, Chairman of the Department of Surgery, Dr. Charles Fitts, head of the Section of Transplant Surgery, and Charlene McCants-Stuart, who at that time was the Executive Director of the Medical University Hospital.

A liver transplant surgeon (JBC) was recruited to MUSC in July 1990. Then followed an intensive three-month planning and preparation phase in which the core transplant team consisting of surgeons (CTF, PRR, JBC, JSB), hepatologist (RMG) and anesthesiologists (JC, MB) was formed. A full time liver transplant coordinator was recruited and trained, and the necessary ICU and floor nursing staff were identified and trained. Operating room staff and extra corporeal perfusionists were identified and trained to support the liver transplant operation. Key members of pharmacy, dietary services and social services were also identified and involved at a very early stage. A series of practice runs, including mock-ups of the actual surgery, were then held to prepare the team. In addition, a large number of other individuals whose efforts were critical to the success of the new program eg, surgical pathology, chemistry and blood bank, psychiatry, pulmonary medicine, and cardiology among others, were involved as much as possible to build awareness of our specific needs. During this time patients were screened and the first patient was placed on the national waiting list in September 1990. The first liver transplant in South Carolina was performed in October 1990.

PURPOSE

The purpose of this paper is to review the experience with liver transplantation at MUSC and compare our results with published reports from other centers.

MATERIALS AND METHODS

A retrospective review was performed to determine the outcome of all patients referred for liver transplantation and transplanted at MUSC from July 1, 1990 through May 31, 1992. All charts of all patients referred for liver transplantation were reviewed and the outcome of that referral was ascertained. The hospital charts and clinic charts of all patients who received a liver transplant at MUSC were reviewed and data collected as to the age and sex of the patient, operating room statistics, and pre- and postoperative indications. Statistics regarding total days spent in ICU, total days on the ventilator following transplantation, total days spent in the hospital for the transplant admission, and total dollars charged to the patient by the hospital for the transplant admission were collected. Time waiting for transplantation and the incidence of retransplantation were noted. The number of rejections were noted and the patients were determined to be either high risk or low risk by standard criteria. Survival was calculated through May 31, 1992 using the Kaplan Meier statistic.

RESULTS

From July 1990 through May 31, 1992, 114 initial referrals were made to MUSC for liver transplantation. Of these patients, 77 proceeded on to full evaluation; 37 did not proceed to full evaluation for reasons such as clearly not meeting substance abuse criteria, pediatric status (which were generally immediately referred to the University of Nebraska for pediatric liver transplantation), overwhelming cardiac or pulmonary disease, metastatic malignancy, or lack of interest on the patient and family's part.

Of the 77 who proceeded on to full evaluation, 20 patients are either still in the process of workup or have been worked up and were felt to be too early for liver transplantation. Five patients went to Omaha for liver transplantation, either due to elective triage in the early days of our liver transplant program (for reasons of patient complexity that we felt made the operation too high risk for a new program), or patient preference. Seventeen of these 77 were declined by the Transplant Selection Committee as being inappropriate candidates for transplantation, and two patients refused transplant on their own. The 33 remaining patients were listed for transplantation at MUSC. Of these, 22 patients had 23 liver transplants (one patient requiring two livers and listed twice); four patients were on the waiting list as of May 31, 1992; five patients died while on the waiting list, and one patient listed was removed from the waiting list after the discovery of drug abuse.

From October 5, 1990 through April 1, 1992, 23 liver transplants were performed in 22 patients. There were 14 female patients with a mean age of 40. 6, range (17-64) and eight male patients with a mean age of 47.4, range (30-72). One of these female patients required immediate re-transplantation for primary graft nonfunction. Of these 22 patients, 17 (77%) were white and five (23%) were black. One patient receiving a liver transplant received a kidney transplant at the same time.

The average waiting time for the first liver transplant in 22 patients was 46.7 days on the active United Network for Organ Sharing waiting list. The retransplant rate for our 22 patients was four percent.

For the 23 liver transplants, pre-operative indications were as follows: Eight (35%) had the diagnosis of post necrotic cirrhosis (PNC): (chronic active hepatitis B - 2 , chronic active hepatitis C - 2, cryptogenic cirrhosis - 2, chronic active hepatitis-autoimmune - 2). Six (26%) patients had the preoperative diagnosis of Laennec's cirrhosis. Others were as follows: primary biliary cirrhosis (PBC) - 2 (9%), primary sclerosing cholangitis (PSC) - 2 (9%), polycystic liver and kidney disease - 1 (4%), hepatocellular carcinoma - 1 (4%), primary nonfunction -1 (4%), acute fulminant failure -1 (4%), secondary biliary cirrhosis - 1 (4%). Postoperatively with the explanted liver available for more complete histopathologic diagnosis, the operative indications changed in four patients. The postoperative diagnosis for the end stage liver disease in these 23 liver transplants were as follows: post necrotic cirrhosis - 11 (48%), (chronic active hepatitis B - 2, chronic active hepatitis C - 2 , cryptogenic cirrhosis - 4, chronic active hepatitis-autoimmune 3) ; Laennec's cirrhosis - 3 (13%), primary biliary cirrhosis - 2 (9%), primary sclerosing cholangitis - 1 (4%), polycystic liver and kidney disease - 1 (4%), hepatocellular carcinoma - 1 (4%), primary nonfunction - 1 (4%), acute fulminant failure -1 (4%), secondary biliary cirrhosis - 1 (4%), hemochromatosis -1 (4%).

Data were collected from the operating room record and the blood bank record. The median time of operation was 9.28 hours with an average of 9.58, range (6.25-15.5). Homologous blood products from the blood bank used per operation were as follows: packed red cells (units), median 4, mean 11, range (0-80); fresh frozen plasma (units), median 7, mean 8.8, range (0-30); platelets (units), median 12, mean 15.3, range (0-100); cryoprecipitate (units), median 10, mean 11.8, range (0-80).

Following transplantation the 22 liver transplant patients stayed in the ICU for a median of three days and a mean of 16.9 days, range (1-77). They were on the ventilator for a median of one day, mean of 10.6 days, range (0-77). Median hospital stay for the transplant admission was 19 days with a mean of 31.7

days, range (5-106). The total charge to the patient from the hospital for the transplant admission was a median value of $86,000 with a mean of $154,000 and a range of $56,000 to $454,000.

Following transplantation rejection was common; of the 22 liver transplant patients, five patients (23%) had no rejection, with 17 patients (77%) having at least one rejection. For those patients who had a rejection through March 31, 1992, there was a mean of 1.3 rejections per patient with a range of one to four.

Criteria for high risk liver transplantation are identified in Table 1. Of the 23 liver transplants performed, 13 liver transplant operations were performed under high risk conditions (56%), with 10 of 23 operations performed under non-high risk conditions (44%). Looking at raw survival in these groups, 13 patients received at least one high risk liver transplant and of these 13 patients, 10 are alive for a raw survival of 77 percent. All nine of the patients who received a non-high risk transplant are alive (100%).

We had three patient deaths. One patient with severe pulmonary hypertension (pulmonary artery systolic pressure > 70mmHg) died suddenly at five days with suspected graft thrombosis. An autopsy was refused.

A second patient with chronic active hepatitis B and a 17cm hepatocellular carcinoma (HCC) died at eight months with widely disseminated HCC and a functioning allograft. A third patient (transplanted in hepatic coma) died after two months in the ICU with progressive multisystem failure and the development of a flaccid quadraparesis and eventual withdrawal of immunosuppressive agents (with concurrence of the family). We had no intraoperative deaths.

The Kaplan Meier statistic was used to cal-

TABLE 1
CHARACTERISTICS OF HIGH RISK LIVER TRANSPLANT PATIENTS

Patients are considered to be at high risk if they have one or more of the following characteristics:

DIAGNOSES

1. Cancer
2. Hepatitis B
3. Fulminant Hepatic Failure

PREVIOUS OPERATIVE PROCEDURES

1. Previous Portacaval Shunt
2. Thrombosis of Portal Vein
3. Retransplantation
4. Greater than two previous right upper quadrant abdominal procedures

PATIENT CONDITIONS

1. Renal failure - serum creatinine above 2.5mg%
2. Ventilator dependent
3. Under one year of age or older than 60 years of age
4. Greater than 100kg in weight or less than l0kg in weight
5. Resting $PA0_2$ of less than 55 TORR
6. Pulmonary hypertension, pulmonary artery systolic pressure of greater than 55mm Hg
7. Multiple transplants
8. Baseline systolic blood pressure of less than 90mm Hg
9. Stage IV hepatic coma
10. Active infection

culate survival. Operative survival (60 days) was 96 percent, with six-month survival of 90 percent, and one-year survival of 82 percent. At present all patients who were alive at the time of these calculations are still alive.

DISCUSSION

In discussing the results of the MUSC Liver Transplant Program to date, it is important to place these results within the context of the results of other centers that have initiated liver transplant programs in recent years. For this purpose we have chosen published results from five centers. The Mayo Clinic began liver transplantation in March 1985 and performed 100 liver transplants in 83 patients over 27 months.[8] Pittsburgh reported on their first 1,000 patients in the post Cyclosporine era, and this period of time began in March 1980 and extended over the next seven years and five months.[9] Emory University did their first liver transplant in January 1987 and reported on their first 50 liver transplants in 37 patients performed over 22 months.[10]

Baylor University Medical Center (BUMC) in Dallas performed their first liver transplant in December 1984 and reported on their first 93 patients who received 101 transplants over 31 months.[11] The University of California, Los Angeles UCLA, performed their first liver transplant in February 1984 and reported on their first 100 liver transplants in 83 patients performed over 34 months.[12] For the purposes of this discussion we shall compare survival among all groups and compare specific variables within each program where available. We shall compare our results against the early series of Emory, BUMC, and the Mayo clinic, which were largely adult series, and where possible, against the adult components of the large Pittsburgh series and the UCLA experience.

Operative indications in adults are listed in Table 2. In all series the predominant indication is hepatocellular liver failure caused by post necrotic cirrhosis (PNC) and/or chronic active hepatitis (CAH), this includes the post viral hepatitis syndrome and end stage liver disease secondary to autoimmune hepatitis and cryptogenic cirrhosis. The MUSC experience correlates well with those of other centers. In all series except ours the combined cholestatic reasons for end stage liver disease, which include primary biliary cirrhosis (PBC) and primary sclerosing cholangitis (PSC), invariably make up the second largest group of indications for liver transplantation in adults. In general these patients are more stable for a longer period of time and deteriorate less rapidly than those patients with hepatocellular dysfunction.[8] In general these patients have less portal hypertension and therefore are technically more easy to transplant. At MUSC we have not been as fortunate as some of the other centers in having as large as a percentage of these patients referred to us with end stage liver disease. The final category listed as other includes such varying indications as Laennec's cirrhosis, hepatocellular carcinoma, inborn errors of metabolism, and acute fulminant failure among others. In most series, Laennec's cirrhosis occupied between five to 15 percent of the overall series. In the early years of liver transplantation it was a

TABLE 2

OPERATIVE INDICATIONS FOR LIVER TRANSPLANTATION — ADULTS

	MAYO	PITTSBURGH	EMORY	BUMC	MUSC
CAH/PNC	29%	41%	56%	42%	48%
PBC	24%	25%	11%	27%	9%
PSC	26%	11%	19%	13%	4%
OTHER	20%	22%	14%	18%	39%

less prevalent indication than now. Our experience at MUSC confirms this. Overall, the operative indications for adults at MUSC are similar to other centers with the exception of a decreased proportion of patients with cholestatic liver diseases compared to hepatocellular liver disease.

One point to be made in evaluating the preoperative indications are that often the indications before surgery do not hold up to post explantation histopathological examination. Specifically, patients who are diagnosed with cirrhosis and a variable alcohol history often are labeled "Laennec's cirrhosis," and in fact after liver replacement, with the total liver available for examination, these are ascertained to have another diagnoses. In our series three patients moved from the Laennec's category to cryptogenic cirrhosis (two patients) and hemochromatosis (one patient). Also there is an increasingly identified relationship between so called alcoholic liver disease and chronic active hepatitis C. Many patients who are labeled with alcoholic cirrhosis may in fact have a combination of alcohol induced liver injury together with chronic active hepatitis C.[13]

Our retransplantation rate of four percent compares well with the noted 20 percent at Mayo,[8] 35 percent at Emory,[10] 10 percent at BUMC,[11] and 20 percent at UCLA.[12]

With the benefit of the years of experience of previous liver transplant surgeons, the operative techniques have improved. Such devices as the thromboelastograph and the use of portal-veno-veno bypass have dramatically improved both the length of surgery and blood loss during the surgery.[14] Also improved preservation techniques have made available allografts that function better immediately after revascularization.[15] Nonetheless, liver transplantation is a procedure that generates huge outliers. In any series, a few very ill people can skew statistics such that the mean is not as representative of the norm as the median.

In our series, a median blood utilization of four packed red blood cells (PRBC) per case and an average units of 11 PRBC per case compares favorably with other series. Specifically Mayo Clinic[8] reported a median blood utilization of 13.2 units per case with an average of 18.5 units per case. UCLA[12] reported an average of 17 units per case. The use of other blood products is also comparable.

With better postoperative techniques and less technical mishaps during the operation itself, the patients tend to convalesce faster than in previous years. We had a median stay of three days in the ICU and a mean value of 16.9 days. Our total hospital stay demonstrated a median value of 19 days with a mean value of 32 days. This compared favorably with a mean value at Emory[10] of 72 days in the hospital post transplant and 50 days post transplant at UCLA.[12] The national median hospital stay post-transplant in 1988 was 33 days.[7] Our patients stayed on the ventilator a median of one day with a mean of 10.6 days; no comparisons were available with other programs. At MUSC generally patients leave the hospital in two to four weeks and our mean charge of $154,000 per patient and median charge of $86,000 compares well with the median of $138, 000 and mean of $175,000 at UCLA (1987 dollars),[12] the mean charge at Emory of $162,000 per patient (1988 dollars) and the 1988 national median of $104, 079.[7]

Rejection is common in the liver transplant patient and has been reported to occur 62 to 100 percent of the time in comparable series.[8-12] Our patients were no different; 77 percent of our patients had at least one rejection but all of these rejections, with the possible exception of one, were treated successfully with drug therapy.

One possible criticism of our series is that we have good results because we have only done "easy" patients. If one looks at our series using criteria commonly accepted to identify high risk patients, over half our cases have been high risk recipients. This is probably contributed to at least in part by our relatively low incidence of patients with cholestatic liver disease, and the referral patterns inherent in beginning a new program.

Survival is the common denominator in all liver transplant programs and our Kaplan Meier survival of 82 percent at one year compares well with the published survival at one year of 83 percent at Mayo,[8] 70 percent at Emory,[10] 74 percent at Pittsburgh,[9] 84 percent at BUMC,[11] and 73 percent at UCLA.[12] This also compares well with the national one-year survival of 73 percent for adults.[7] Other data in a complete national survey indicate that survival above 80 percent places us in the top 20 percent of programs in the country based on survival.[7]

Overall our statistics are as good as or better than the published reports of other programs beginning liver transplantation, with the exception of volume. We feel that this is largely due to the disparity between the population density of Charleston and such areas as Dallas, Atlanta, Los Angeles, or Pittsburgh, and/or the existence of national referral patterns such as with the Mayo Clinic, or Pittsburgh. Also, in the early to mid 1980s when these other programs began there were fewer programs in existence to compete for patients.

One significant reason for our improved statistics is the existence of UW preservation solution. All of the other programs used for our comparison began when only Eurocollins was available for preservation. UW solution was first used in Pittsburgh in October 1987 and was in general use across the country by the spring of 1988. So, many of the liver transplants reported by these programs, were performed with Eurocollins as the preservation solution. All of the transplants at MUSC have been in the UW era and UW has been clearly demonstrated to provide a superior allograft.[15]

Transplanting patients for alcoholism is controversial. At MUSC we only consider those alcoholics who meet all four criteria of our substance abuse program. Specifically, they have to: (1) be abstinent for six months; (2) complete formal rehabilitation; (3) sign a compliance statement; and (4) complete a psychiatric evaluation. With carefully selected patients, studies have shown that following transplantation alcoholics have survival as good as any other group and have a very low rate of recidivism.[16,17]

Transplantation for hepatocellular carcinoma is also controversial. Over the years many liver transplants have been done for types of liver cancer such as hepatocellular and cholangiocarcinoma. It is our feeling that transplantation for cholangiocarcinoma imparts little or no benefit to survival. On the other hand, selected patients with hepatocellular carcinoma may benefit from transplantation. Specifically those who have: (1) a lesion that is otherwise unresectable by virtue of its location in the liver or co-existing cirrhosis; (2) a lesion that is less than 5cms in diameter; (3) preferably a unicentric lesion; (4) preferably no portal vein thrombosis; and (5) no evidence of metastatic disease, may be the best candidates.[18]

The need for liver transplantation has been estimated as 30.7 to 59.1 persons per million per year who would benefit from the operation.[7] Based on this widely accepted estimate and an approximate population of 3.5 million people in South Carolina (1990 census), there are at least 100 to 200 people in the state of South Carolina who could benefit from liver transplantation each year. Since its inception in July 1990, the MUSC Liver Transplant Program has made progress in fulfilling the need for this service in this state. With the planned addition of Pediatric Liver Transplantation in the fall of 1992, we believe we will be well on the way of fulfilling the health care needs of those with end stage liver disease in South Carolina who wish to explore liver replacement therapy as a therapeutic modality for their disease.

CONCLUSION

An adult liver transplant program has been successfully established at MUSC. With the addition of pediatric liver transplantation in late 1992, any patient with end stage liver disease in this state or region can receive appropriate state of the art liver replacement therapy in the state of South Carolina. The demonstrated patient survival, recipient complexity, operative statistics, hospital stay, and cost data favorably compare to other larger and historically older liver transplant centers. ❒

ADDENDUM

As of January 31, 1993, 45 liver transplants have been performed in 44 patients, including six pediatric patients. At present, the calculated 60-day survival is 93 percent and the calculated one-year and two-year survival is 86 percent. The statistic is Kaplan Meier.

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ACUTE RENAL FAILURE: PATHOLOGY AND PREVENTION*

ARTHUR V. WILLIAMS, M. D.**

During World War II four patients crushed by fallen masonry with subsequent renal failure were described because they were thought to represent a "specific and unreported syndrome...which will be seen elsewhere during the war."[1] Bywaters and Beall were accurate in their original description and their prediction of its future occurrence. The described anatomic changes consisting of tubular degeneration and tubular pigmented casts thought to be "hemoglobin, myohaemoglobin, or bile pigment" along with intact glomeruli have proven to be pathologic hallmarks of the entity. They also realized that the obstruction by casts was not the only functional defect because unobstructed tubules should have delivered normal urine but that examined "resembled, however, more a glomerular filtrate," decreased in volume but unconcentrated and containing inappropriate amounts of chloride.

This classic description stimulated an explosion in research as well as recognition of the fact that acute renal failure occurred in a host of clinical conditions. These include intravascular volume depletion, decreased cardiac output, the presence of exogenous toxins including antibiotics, contrast media, heavy metals and chemotherapeutic agents as well as endogenous toxins such as myoglobin, hemoglobin and the product of bacterial toxins or plasma cell dyscrasias.[2]

The clinical course and treatment of the entity have been thoroughly reviewed. This discussion will be confined to the mechanisms of failure and the possibility of prevention or treatment by their modification.

Despite its many causes, acute renal failure presents with a common pathophysiology including failure of glomerular filtration secondary to altered intrarenal vascular resistance, change in glomerular capillary surface area or permeability and tubular dysfunction with associated obstruction due to casts or cellular necrosis.

Autoregulation of blood flow was recognized early in this century by Bayliss who compared changes in the arterial wall secondary to increased pressure to contraction of the muscles of the body of a stretched earthworm. When stretching force is removed, the worm, or blood vessel, relaxes. These changes, independent of the central nervous system, are of myogenic nature.[3] Appropriate response of the arterial wall to change in perfusion pressure is the first line of defense against potentially damaging changes in renal intravascular pressure. This response is lost in acute renal failure.

Persistent vasoconstriction in pre-glomerular arterioles has been documented in patients with acute renal failure. Decrease in diameter in these small vessels was demonstrated by renal arteriography. Anuria has been explained by subsequent loss of hydrostatic filtration pressure that falls below capillary oncotic pressure.[4] The identity of the vasoconstrictive agent is not clear. Angiotensin II and sympathetic stimulation may play a role but are not in themselves entirely responsible.

In animals there is loss of autoregulation of blood flow but the pattern of change depends on the method of induction. Following norepinephrine infusion renal vascular reactivity to sympathetic stimulation is markedly enhanced. After renal artery clamping, vascu-

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lar reactivity is attenuated. In either case a problem is generated because of decreased flow in the first instance or failure of buffering reflow in the second. It seems likely that failure of response to sympathetic stimulation is the consequence of damage to calcium storage and/or pumping mechanisms or a decrease in phosphatase activity.[5]

The role of intracellular calcium in the pathogenesis of acute renal failure has attracted clinical interest because normalization of intracellular levels with calcium channel blockers may be helpful in prevention. Normally, extracellular calcium levels are significantly higher than intracellular. This gradient is held in spite of the fact that an electrical gradient favors the movement of calcium into cells, the resting cell membrane being relatively impermeable to calcium. However, with electrical stimulation or with anoxia calcium moves through "slow channels" in the cell membrane into the cytoplasm. With this subsequent increased calcium concentration muscle fibrils contract and remain in a contracted state until cytoplasmic concentration is returned to normal. Return is accomplished by calcium efflux that is directly ATP dependent or indirectly dependent via a Na/Ca exchange. Na/K-ATPase is the predominant determinant of cellular sodium. In addition, cytoplasmic calcium is actively transported into the endoplasmic reticulum and mitochondria.

If cytoplasmic calcium is not removed, muscle contraction persists. In the case of renal vasculature, this translates into increased fixed resistance impairment of flow and increased sensitivity to sympathetic stimulation with delayed ischemic damage.

This role of calcium in decreased arterial flow as the initiating event in acute renal failure and in consequent tubular cell damage with luminal obstruction by cellular debris has been reviewed by Schrier and his group.[6]

The mesangial cell is positioned at the base of a glomerular capillary loop and attached to its basement membrane by contractile microfilaments. Interest in its role in acute renal failure is in part due to the observation that single nephron filtration rates may be decreased in acute renal failure because of decrease in the glomerular capillary filtration coefficient; that is, a fall in single nephron filtration in spite of unchanged pressures in the glomerular capillary and filtration space.[7] This fall might be secondary to a change in either basement membrane permeability or area. Change in area due to mesangial cell contractility has been proposed to be responsible for this filtration decrease but seems unlikely in view of recent elaborate studies of mesangial cell structure and function.[8] However, their attachment to the basement membrane and their participation in the filtration process allows continued speculation as to their role in ultrafiltration coefficient variation in acute renal failure.

As noted above, Bywaters and Beall described the precipitation of relatively insoluble material in the tubules. In addition, tubular obstruction by cellular debris was later described by Oliver who also described in detail cellular necrosis and basement changes with disruption of tubular continuity (tubulorhexis) that occurred at all levels of dissected nephrons. He reasoned that this disruption was caused by ichemic change. He labeled episodes of vascular insufficiency "Ischemuric."[9] However, it remained for the micropuncturists to demonstrate that the apparent obstruction is real and not secondary to primary failure of filtration. Microinfusion of proximal tubules clogged with cellular debris may result in rise in intratubular pressure as high as 80 mm Hg compared with 13 to 15 in the normal.[10] It appears certain that tubular obstruction is the predominant reason for oliguria in some instances of acute renal failure.

Backleak of fluid from tubules into the peritubular circulation was described by Richards in 1929. He observed filtered dye concentrating in the tubules of an intact frog but disappearing from those damaged by bichloride of mercury. He observed that "every visible glomerulus is extraordinarily active...but no drop of urine issues from the ureter." He concludes that "The only explanation I can reach is that under these abnormal conditions the osmotic pressure of the blood proteins is unobstructed by the normal qualities of tubular epithelium and is able to draw all or nearly all of the glomerular filtrate back into the blood stream."[11]

Backleak in non-oliguric renal failure has been demonstrated by comparing glomerular filtration rates of inulin with a radius of 12 Angtrom units with that of dextrans with a radius of 22 to 30 A. In the normal kidney both inulin and dextrans of this size are filtered and not reabsorbed. In the patients studied with non-oliguric renal failure the ratio of dextran clearance to inulin clearance exceeded unity. The most reasonable explanation was that the smaller molecule, inulin, was reabsorbed through the damaged tubules while the larger was not. In prerenal azotemia inulin and dextran clearances were the same.[12]

Protection from or amelioration of acute renal failure depends upon interfering with one or more of these mechanisms involved in its genesis.

Maintenance of appropriate extracellular fluid volume during the period when failure is anticipated is critical to preservation of function. Preservation of volume prevents loss of protective autoregulation of renal vessels. With volume deficit hyperractive or fixed arterioles lead to further damage.

Intravenous mannitol administration continues as a useful prophylactic measure, particularly in vascular surgery where renal flow is compromised. This has been recognized since 1945 when it was found that its administration after release of a 20 minute rat renal artery clamp was followed by maintenance of creatinine clearance. Without mannitol renal failure followed.[13]

Confirmation of mannitol's clinical usefulness in prophylaxis of renal failure has been well documented. Its site of action may be intratubular maintaining urine volume allowing washout of casts and cellular debris or decreasing tubular cell swelling. There is also decreased renal vascular resistance and significantly increased renal blood flow with its infusion. These responses are most likely due to increased production of intrarenal prostaglandins or increased vascular sensitivity to prostaglandin effect. These responses are greater than would be expected from volume expansion alone. The renin-angiotensin system also seems an unlikely mechanism for mannitol's action.[14]

The data on the use of mannitol in the treatment of established renal failure are less convincing. In this instance, it should be used cautiously because of the possibility of over expansion of blood volume. A prompt diuresis is more likely evidence of a pre-renal component to oliguria than alleviation of fixed acute renal failure.

The use of loop diuretics in prophylaxis and therapy has been extensively reviewed.[15] These drugs may protect against failure by mechanisms similar to those described for mannitol. However, unlike mannitol, they are ineffective in some preparations. Loop diuretics decrease salt and water reabsorption only distally so that washout of casts from the proximal tubule cannot be anticipated.

Large doses, above two grams, may have a protective effect but ototoxicity is likely.

Solute excretion and urine volume may increase but without change in filtration rate converting oliguric to non-oliguric renal failure. How this affects final outcome is not clear but decrease in the number of dialyses necessary has been reported. Trial of a loop diuretic in acute renal failure is justified although most clinical studies find that they confer no long term benefit. "It can also be said that the unimpressive overall results of administration make it ethically justified to withhold the use of furosemide...."[16]

Calcium channel blockers decrease the incidence of post-transplant acute renal failure by protecting against vascular change and cell death. Presumeably calcium enters anoxic cells in increased concentration through the usual channels. The cell protects itself against cytosolic hypercalcemia by active movement of calcium from cytosol to mitochondrial respiratory function. Thus far verapamil's use in transplantation is the most practical clinical application of channel blockers in the prevention of acute renal failure.[17]

Verapamil also protects against cyclosporin A toxicity when injected into the artery of the transplanted kidney after clamp release, this followed by oral therapy. Delayed function was also prevented and, inexplicably, a significant decrease in episodes of acute rejection has been reported.[18]

The effects of channel blockers on various aspects of renal function in multiple clinical settings have been extensively reviewed.[19] Their actions in acute renal failure justify additional clinical studies to clearly determine their benefits, optimal dosage and timing of administration.

Other drugs have been investigated and used with interesting but inconclusive results in the treatment of acute renal failure. Low dose dopamine has been a reasonable choice of drug to prevent and modify the course of acute renal failure since it should paliate vasoconstriction. Clinical studies with its use have not been convincing nor has the combined use of dopamine and loop diuretics been clearly beneficial in spite of the fact that increased urine volume and solute excretion are reported with their use.[20]

Intravenous amino acids have been reported to affect the outcome of acute renal failure favorably and careful labortory studies have given a rational for their use.[21] Clinical experience has not, however, indicated that their routine use is beneficial.

The incidence of renal failure in transplant recipients treated with cyclosporine has been decreased by the use of misoprostol, an analogue of prostaglandin E122. This has not been widely used because of severe diarrhea following administration and similarly beneficial results with calcium channel blockers.[22]

Finally, atrial naturetic peptide, still in the laboratory, has potential for improvement of function in fixed acute renal failure. It has been used alone and with dopamine in laboratory models. Clinical trials have not yet been reported.[23]

DISCUSSION

Volume maintenance remains the best prophylaxis of acute renal failure. Until depletion is severe, autoregulation protects function and structure. Once cell membrane integrity is impaired by continued deprivation of oxygen and nutrients the intracellular movement of calcium is followed by impaired blood flow and altered vascular reactivity. Calcium flux is clearly not the only barrier to adequate vascular function but is one that may be restored toward normal by the early use of channel blockers. Prophylactic use of mannitol improves renal blood flow probably by stimulation of synthesis of vasodilator prostaglandins. In addition, it is valuable as an osmotic diuretic that acts throughout the length of the nephron to wash out casts or necrotic cell debris. Similarly, the use of loop diuretics protects against acute renal failure by increasing blood flow as well as tubular urine volume.

Channel blockers also seem to be helpful in preservation of tubular cell integrity although the choice of the optimal blocker and dose and timing of administration of the drugs remain to be determined. Cell life is impaired as energy is directed toward removal of calcium rather than cell respiration and blockers probably help preserve cell integrity by improving respiration in a high calcium environment.

Once fixed renal failure has come about none of the measures discussed is clearly beneficial. Conversion of oliguric to nonoliguric renal failure is possible but its clearest benefit is to the morale of the attending physician.

Future research into the function of the mesangial cell and control of the glomerular basement membrane filtration characteristics may allow interference with decreased filtration seen in acute renal failure. Only recently have changes been observed in the glomerular capillary after laboratory manipulation that might lead to failure.

Also for the future, atrial naturetic factor is promising but is not available for clinical trial.

Prophylaxis of acute renal failure still depends upon old principles. Treatment continues to consist of patient support until the natural history of the entity is completed with spontaneous improvement in function to normal. ❐

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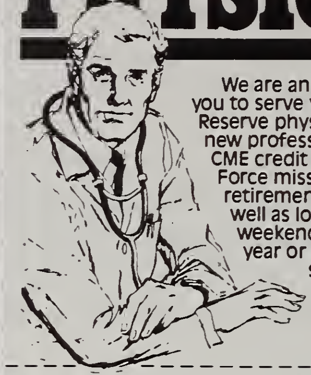

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ANTERIOR CERVICAL DISKECTOMY AND FUSION IN A COMMUNITY HOSPITAL SETTING*

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Anterior approaches to the cervical spine have become accepted surgical treatments since the initial effort of Robinson and Smith in 1955 and Cloward in 1958.[12] Recently, the development of the intraoperative microscope has greatly facilitated this approach. Neurological complications are rare and the postoperative neck discomfort is usually minimal. The decision to use autograft versus allograft in the fusion has been described and remains controversial. However, postoperative discomfort at the iliac crest donor site can be problematic.[3]

This report summarizes a consecutive series of patients treated by one neurosurgeon practicing in a community hospital setting with analysis of the results as outlined.

MATERIALS AND METHODS

Between 1989 and 1991, 148 patients underwent anterior cervical diskectomy and fusion in the senior author's (MNB) practice. Patients presented and were treated for either cervical radiculopathy or cervical myeloradiculopathy (Figure 1). There were 87 men and 61 women with a mean age of 46. Preoperative evaluation consisted of either cervical spine magnetic resonance imaging (MRI) or cervical myelography and follow-up computed tomography (CT). Preoperative electromyography (EMG) was a useful adjunct but not a prerequisite for surgical intervention. Patients were treated with an initial course of conservative and physical therapy except those presenting with obvious neurological deficits.

All patients underwent anterior cervical diskectomy and fusion of the Cloward type (Figure 2). Ninety-six patients underwent a single level fusion and 52 patients underwent multiple level fusions. A right-sided transverse skin incision was used in all cases except one which was a patient with a C7-Tl disc herniation. This patient was approached from the left side. This was the only C7-Tl disc herniation in this series. The remaining operated disc spaces were as follows: C3-4 14 cases, C4-5 28 cases, C5-6 96 cases, and C6-7 68 cases. Intraoperative microscopy was used in all cases and osteophytic spurs were carefully removed using either 1or 2 mm Kerrison rongeurs or the Midas Rex drill with an M-8 attachment. All cases were performed at Anderson Memorial Hospital in Anderson, South Carolina.

Iliac bone was harvested for incorporation in all cervical fusions. A small incision was made inferoposteriorly to the anterior superior iliac spine, and subperiosteal dissection was performed. The Cloward 12 mm handheld drill was used to obtain a full thickness, bicortical graft below the top of the iliac crest and proximal to the anterior spine.

Postoperatively, the patients were placed in a rigid Philadelphia collar and gradually weaned to a soft cervical collar. The total period of immobilization was six weeks.

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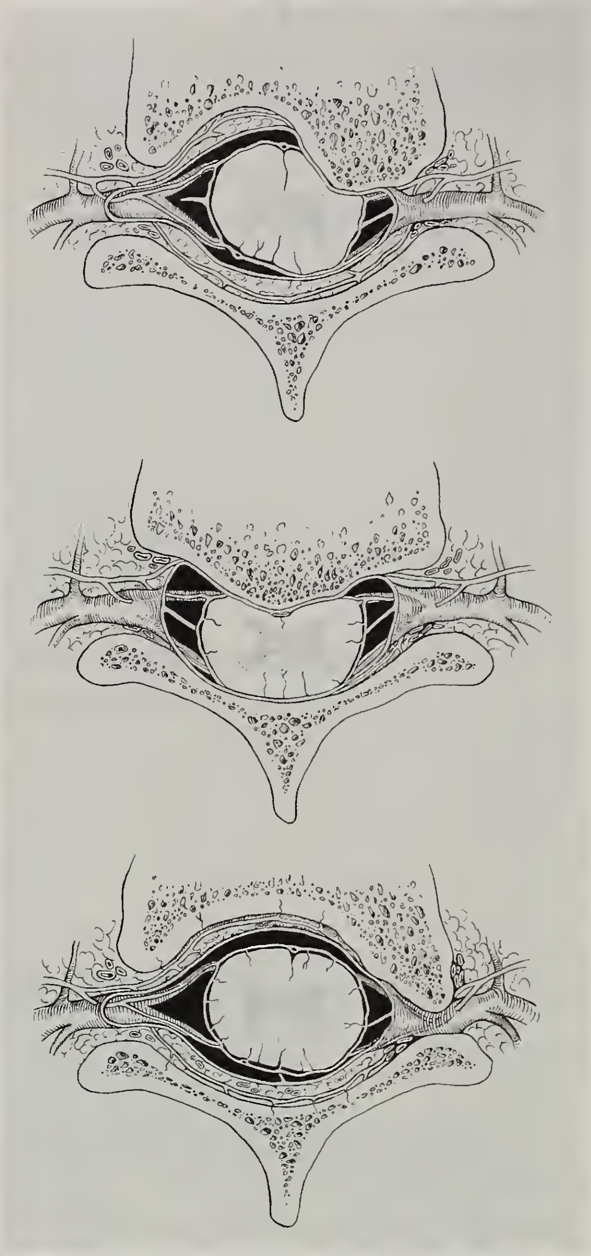


Figure 1. Schematic illustration of the three types of neurological compression in the cervical spine. From top to bottom, cord and root compression secondary to large osteophytic spur, cord compression from either osteophytic spur or disc, and lastly, osteophytic spur formation causing cervical root compression only.

Patients were ambulatory and self-sufficient usually by the first postoperative day. However, in instances of myelopathy, this period of recovery was sometimes extended.

Cervical spine radiographs were obtained at one month and three months postoperatively. At the three-month examination, the patient underwent flexion and extension cervical spine radiographs for evaluation. The radiographs were independently reviewed by one of our staff radiologists and the senior author (MNB). Additional radiographs were obtained as needed to document fusion or the lack thereof.

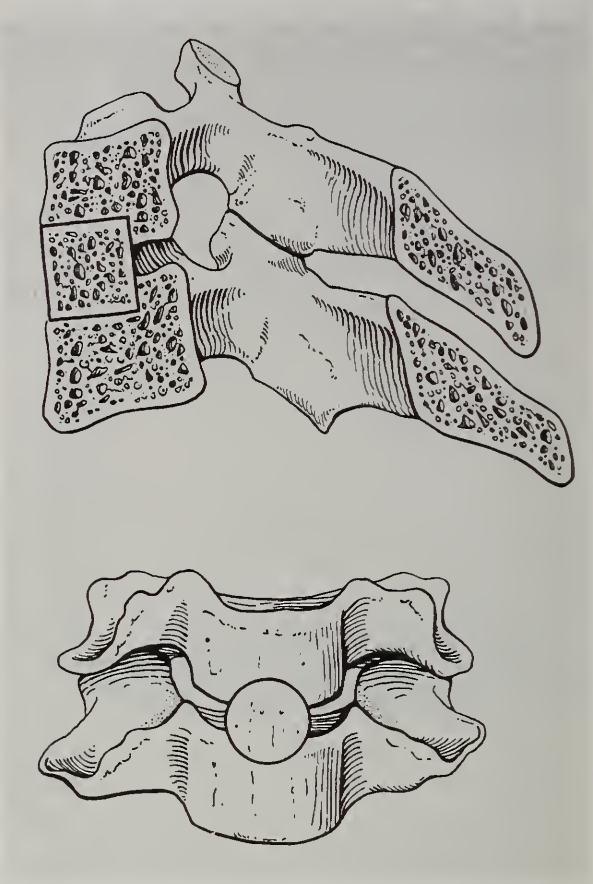


Figure 2. Schematic illustration of anterior cervical diskectomy and fusion of the Cloward type. The harvested bone dowel is slightly larger than the diskectomy and recipient site, thereby providing some distraction and stabilization in the operative area.

After a minimum of six months of postoperative follow-up, an initial questionnaire was sent out to each patient. The questionnaires asked whether or not the patient was experiencing any hip pain now and the patients were asked to describe the pain. Patients were asked to determine whether or not they had returned to their previous level of activity, and whether or not they had returned to work. Patients who identified postoperative donor site pain were then mailed a second questionnaire which asked them to specifically describe the pain as being either mild, moderate or severe. The patients were then asked to describe the discomfort and how it limited them, if at all.

Additional data were obtained from the patient's chart regarding the status of preoperative employment. One hundred eight out of the 148 patients were employed prior to their cervical spine injury. This includes patients who were injured and had been out of work for some time prior to their presentation to the neurosurgeon. Forty patients were, therefore, already retired, disabled or unemployed prior to their surgical procedure.

RESULTS

One hundred thirty-four of the 148 patients responded to the questionnaires (91%). Of the 14 non-respondents, two patients had died, one patient refused to respond due to pending litigation, and 11 patients were lost to follow-up.

Ninety-seven of the 108 patients employed preoperatively returned to work. The 11 patients who did not return to work are listed in Table 1 with the appropriate reason and co-morbidity if present. This information was compiled from both the returned questionnaires as well as from the patient's chart.

Ninety-three patients stated that they returned to their previous level of activity, 38 said they did not, and three failed to mark this portion of the form. Thirty-six out of the 134 patients identified postoperative hip pain directly related to the iliac donor site. Of these, 18 patients regarded the pain as being mild, 15 patients felt that the pain was moderate in severity, and three patients felt it was severe. Of these three, two patients had a single graft harvested and one patient had two grafts harvested.

Six of the 148 patients suffered a postoperative infection in the donor site (4%). Of these six patients, three were insulin dependent diabetics and four of these six required wound packing. All of the infections occurred early in the study and in several of them it was determined that the subcuticular Prolene closure was inadequate and, therefore, the skin closure was changed to small surgical staples. Only one of the six infections occurred after this change in surgical technique.

There were no cases of cervical wound infection or cervical hematoma postoperatively.

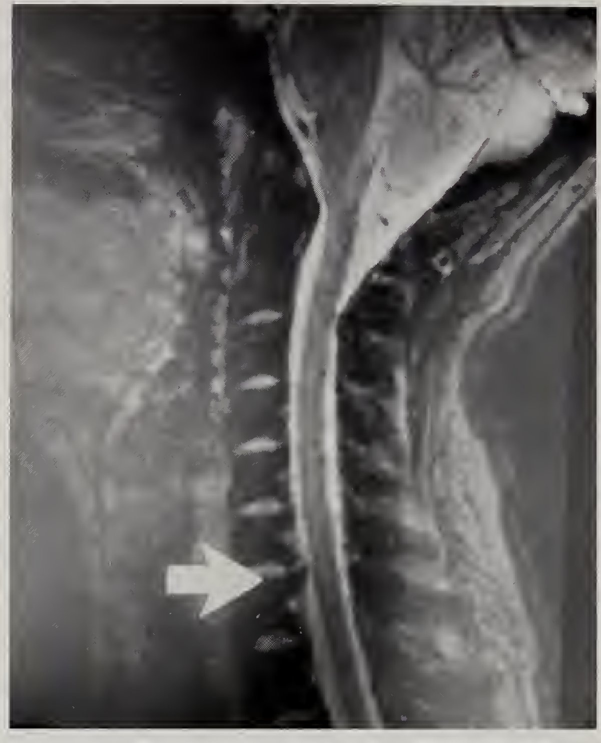
There were no cases of recurrent laryngeal nerve palsy in any of the 148 patients.

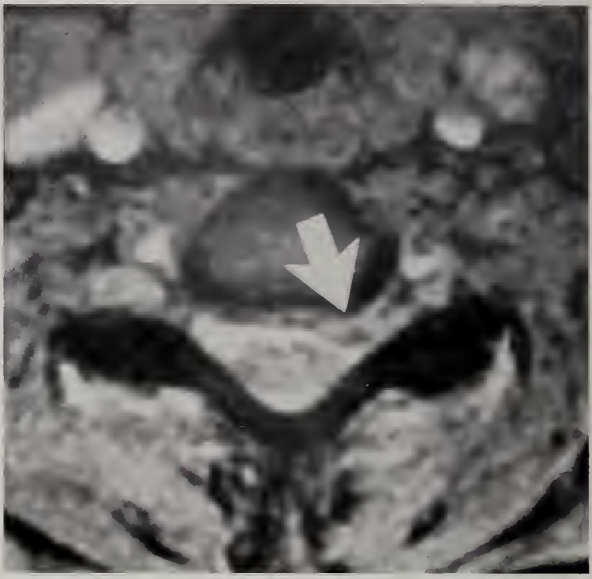
Four patients subsequently underwent posterior cervical laminectomy and foraminotomy for persistent pain postoperatively. Three of the four patients were retired prior to their initial surgery. The fourth patient subsequently returned to work after his second procedure. Therefore, the reoperation rate was approximately three percent. No patients required repeat anterior operations for corrective surgery at the previously operated site. No cases of graft dislodgement occurred.

Review of the flexion and extension cervical spine x-rays at the three-month follow-up revealed nine patients with delayed union. Three of these patients subsequently went on to fuse, leaving a delayed union rate of three out of 148 (2.0%) and a nonunion rate of six out of 148 (4.1%) at six months or greater (Figure 3). The authors know of one additional patient (D.P.) with a pseudoarthrosis who underwent subsequent anterior spine surgery at another institution. However, this patient was initially operated on prior to the current

TABLE 1. PATIENTS WHO HAVE NOT RETURNED TO WORK

Patient	Reason	Workmen's Compensation
1. B.O.	Co-morbidity with lumbar spine injury/surgery	No
2. T.L.A.	Persistent myelopathy	Yes
3. D.S.	Chronic cervical spine pain	Yes
4. J.G.	Persistent myelopathy	Yes
5. F.L.	Chronic cervical spine pain	No
6. R.H.	Co-morbidity with lumbar spine injury/surgery	Yes
7. B.P.	Diagnosed with cancer in postsurgery period	Yes
8. A.J.	Persistent myelopathy	No
9. H.D.	Co-morbidity with shoulder injury/surgery	Yes
10. J.N.	Co-morbidity with persistent vision changes	Yes
11. J.E.	Co-morbidity with knee injury/surgery	Yes





Figures 3A and 3B. (at left and above) Preoperative cervical spine MRI scan of patient D. H. demonstrating a large posterior disc extrusion at C6-7 causing root compression on the axial view (arrows).

study period.

Similarly, there were no cases of graft collapse. There were no deaths and no neurological deteriorations in the follow-up period.

Two patients described persistent numbness in the anterolateral aspect of the right thigh postoperatively. When combined with the incidence of donor site wound infections, there was an approximate five percent incidence of donor site complications in this study.

DISCUSSION

Sir William Gowers first described degenerative cervical spine disease in 1892.[4] He described "exostoses" which were osteophytes arising from the vertebral bodies protruding into the spinal canal. Peet and Echols[5] correctly identified these lesions as ruptures of the cervical intervertebral discs in 1934.

Operative treatment of cervical disc disease is generally reserved for those patients who fail to improve with non-operative management and in those with acute, disabling sensory or motor deficit. In the case of radiculopathy, physical signs as well as diagnostic aids should define the involved roots precisely prior to the operation. In patients with myelopathy, the level of cord compression should be clearly evident clinically and radiographically in order to direct surgical decompression. Progressive neurological deficits rarely respond to non-operative management.

During the 1950s, Robinson and Smith and Cloward pioneered and perfected a variety of techniques to provide a satisfactory anterior approach to the treatment of degenerative cervical spine disease. The anterior approach affords direct and safe removal of ventrally located defects and permits early patient mobilization in the postoperative period.[6] Fusion obviates further degeneration at the operative level. However, with the anterior fusion, the loss of mobility of an intervertebral space may cause osteophyte formation at the interspace above or below the fusion site causing further stress related changes in the discs.[7]

In the treatment of radiculopathy, results from the Cloward procedure have ranged from 80 to 94 percent improvement; however, there are substantial differences in the length of follow-up as well as classification of excellent, good or fair results. Reported postoperative improvement for myelopathy has ranged from 17 to 71 percent with most series documenting an approximate 50 percent

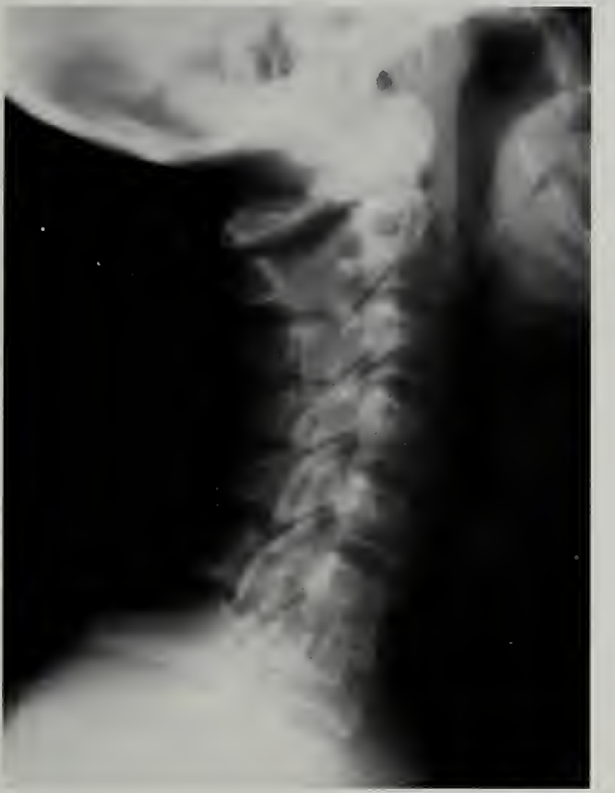


Figure 3C. Cervical spine lateral radiograph of the patient D. H. at one month showing good position of the bone graft at C6-7.

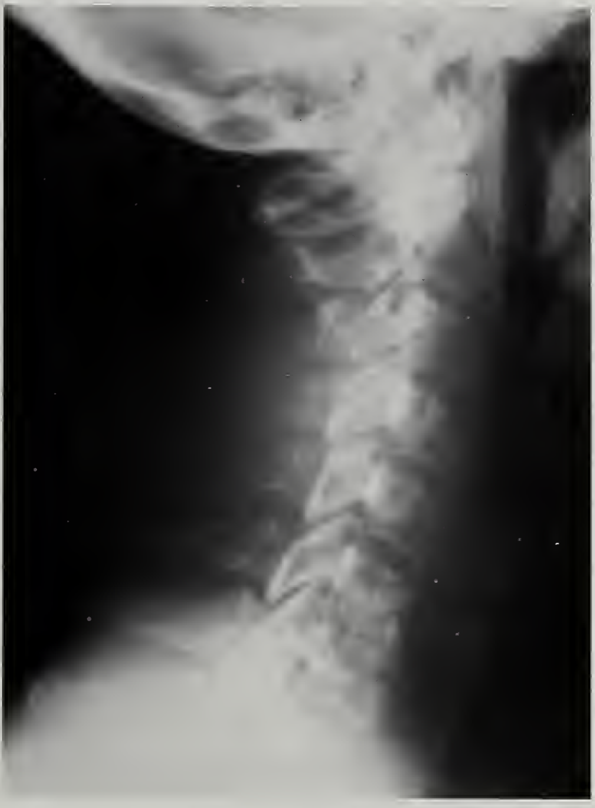


Figure 3D. Lateral cervical spine radiograph of patient D. H. at three months demonstrating radiolucent lines at the graft site without bone graft migration or loosening.

improvement.[3,6,7] Complications of anterior approaches include tetraplegia, although this is a rare occurrence.[8] Root and cord signs and symptoms may be worsened as well postoperatively. Hemorrhage in the postoperative period is rare but can be a life threatening complication. Reoperation with evacuation of hematoma may be required.

Infection may occur as a superficial wound infection or a deep-seated osteomyelitis. If autogenous bone graft is used, the risk increased primarily because of the second wound required to obtain it.

The trachea, esophagus, or both may be injured or perforated. Failure to treat perforation of these structures appropriately may result in a fistula, airway problems or osteomyelitis in the operative site. Pneumothorax may occur during lower cervical spine esposure by the anterior route because of the proximity of the pleural apex.

The carotid artery retracted laterally in the routine fashion may shed intravascular emboli particularly in older patients with vascular disease or may thrombose because of excessive distortion or intimal injury. Carotid injury during anterior cervical spine surgery is rare.

The recurrent laryngeal nerve lies in the fascial plane between the trachea and esophagus. It is slightly more vulnerable to injury on the right side because of its shorter course. Vocal cord palsy is apparent after an anterior operation in about two percent of the cases, is transient in most, and permanent in a few.[8] The superior laryngeal nere is also vulnerable particularly if the strap muscles are dissected during a high cervical exposure.

When a bone graft is used, migration or absorption can be expected in a small number of cases. Occasionally, a bone graft requires repositioning by a second operation. Nonunion at the operated site develops in about 15 percent of the cases when bone graft is not used and in about five percent when a graft is used.[9,10]

In the present study, autogenous iliac bone graft provided this series of patients with a high rate of bone union (96%). This compared favorably with other published results and appears to represent a higher fusion rate than reported series of patients undergoing surgery with allograft bone.[10]

The returned questionnaires revealed a high rate of postoperative discomfort in the graft donor site. The 27 percent of patients who experienced postoperative discomfort directly related to the graft site compares with the persistent donor site pain described by DePalma et al.[3] Thirty-six percent of their patients had persistent discomfort postoperatively at one year.

There were no cases of recurrent laryngeal nerve palsy in this series. One hundred forty-seven of the 148 operations were performed from the right side. The only left-sided approach was performed on a patient with a C7-Tl disc herniation in whom it was felt that the risks of a right-handed approach outweighed the potential benefits. For the remaining majority of patients, however, the right-sided approach appeared to facilitate the operative procedure and was safe in terms of protecting any potential injury to the recurrent laryngeal nerve.

Of the 108 patients who were employed prior to the cervical spine surgery, 97 of them (90%) returned to their previous occupation. In reviewing the 11 cases who were unable to return to work, five had associated co-morbidity, three had disabling myelopathy as a result of their initial injury, two had persistent chronic cervical spine pain and one patient was diagnosed with lymphoma in the post-surgery period. Eight of the 11 patients were Workers' Compensation cases (Table 1). Therefore, we conclude that anterior cervical diskectomy and fusion in the community hospital setting is a successful and safe procedure. Patients who were employed preoperatively returned to their regular occupations 90 percent of the time. This compares favorably with other published series. However, 27 percent of the patients responding to a questionnaire felt that they had some persistent discomfort in the iliac crest donor site. This high rate of discomfort may be underappreciated by some spine surgeons. Allograft bone should be considered in the preoperative evaluation and planning in patients undergoing anterior cervical diskectomy and fusion. ❐

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REBUILDING A HOSPITAL IN A DEVELOPING COUNTRY

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BACKGROUND

A visit to a developing country — what is known as a "Third World" country — can be a fascinating and challenging experience. A trip designed to provide medical care and support to such a country can be an extraordinary opportunity.

We had the occasion to participate in such an opportunity as part of service with the Air and Army National Guard during the spring of 1992. A group of medical and civil engineering volunteers from the Army National Guard of Utah and from the Air National Guard units in New York, Alaska, Alabama, Mississippi, and South Carolina travelled to a republic on the west coast of Africa. The mission was to rebuild a "hospital" of sorts at a former French Foreign Legion military post in a village in the interior of the country.

Of the 42 Americans in the group, 12 were from a group of civil engineers from the Army Guard and 28 were medical personnel from the Air Guard. We were accompanied by two interpreters who spoke French, the official language of the republic. There were three nurses, three physicians, and numerous medical support personnel including environmental health technicians. The physicians on the team included a family physician from South Carolina who was a part-time Flight Surgeon with a unit flying F16 aircraft in that state, a cardiologist from Manhattan in New York City who was a part-time Flight Surgeon with a C-130 aircraft group in New York State, and a family physician from rural Alaska providing Flight Medicine Support to an air defense flying unit in that state.

DEPLOYMENT

The republic visited is a country of over seven million persons with harsh medical conditions and dismal living standards; it is one of the poorest countries in the world. The average life expectancy for males is 40 years of age and for females is 44. The infant mortality rate is 150 per 1,000 live births. The predominant religion is Muslim and although the official language is French, less than two percent of the population speaks that language.

Our group of volunteers was notified in late February that we were to leave the first of April, so in March we began organizing our supplies and equipment for the trip. We were very limited by the availability of airlift and budget restrictions, but did take a certain amount of medications and medical supplies on a large aluminum "pallet" aboard the C-130 military aircraft. We also received prior to our departure vaccinations against meningitis and hepatitis as well as beginning prophylactic medication for malaria; U. S. military personnel are routinely also immunized for yellow fever and typhoid.

The first leg of the trip over was eight hours of cramped sitting quarters in the cargo area of the C-130 four-engine turboprop airplane carrying our equipment on large pallets with us seated against the walls on webbed (non-padded) seats. The interior of a C-130, by the way, is always either too hot or too cold and the noise level is similar to that in the infield of the Darlington raceway during the Southern 500 stock car race. There is also that third dimensional effect of flying known as "turbulence" thrown in and the bathroom on this particular airplane was a porta-potty surrounded by a canvas curtain in the rear of the aircraft. Following the first leg of the deployment we spent the night in the Azores. We took off at 6:00 a.m. the following morning for the second leg and a seven and one-half hour flight to the capital city in the host nation.

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IN COUNTRY

We were the first American military aircraft to ever land in the country and were the subject of some understandable curiosity. We were taken by military bus about four hours inland over the only paved highway to the village.

Our quarters were old barracks at the French military camp with metal cots lined up side by side. We slept under individual mosquito netting on top of sleeping bags on the cots. We had taken our food supplies with us including several cases of bottled water for drinking and cooking, and we ate prepackaged meals that are standard American military fare while deployed. We took a small diesel generator with us for some lighting at the camp and kitchen area, and our toilet facilities were essentially "outhouse" style field latrines. We had no running water initially.

The local populace was delighted to see us arrive. While we unloaded the cargo trucks into a locked room immediately upon arrival at the camp, some local medical personnel hastened to ask if we had brought any surgical supplies. It seemed an appendectomy was in progress in the village operating area and any new supplies would be especially helpful. A civilian hospital in Georgetown, South Carolina — the home of one of the family physicians on the mission — had taken the trouble to package up and ship with us a special package of old surgical instruments along with some bundles of 4x4 sponges, and these along with some sterile gloves and containers of isopropyl alcohol were whisked away to the operating arena.

We were invited to observe the operation in progress. A native male about 30 years old had complained of abdominal pain for some time and it was the medical custom to remove the appendix of such an individual with such symptoms. Generally, the only anesthetic available was local xylocaine with an occasional dose of diazepam IV if fluids and administration sets were available.

In this particular case, the operating team consisted of a chief surgical technician with a scrub assistant and two other technicians at the head of the table. The OR was a ten foot square cubicle with a single generator-powered light that did not work. The floors were covered with dust, mud, and dried blood, and the operating table was a dirty, rusty old relic with metal clamps securing the patient's legs and arms to the table.

Surgical gowns and drapes were fairly clean but not sterile and the instruments had been washed in local nonsterile water and then soaked in isopropyl alcohol. The instruments were mainly curved clamps similar to Crile clamps with a few Kelly clamps which did not always close fully. Two small Army-Navy type retractors were noted and a single pair of Mayo scissors were used for cutting sutures and any type of scissoring procedures. The scalpel blade used was a bit dull and had been used before on several occasions, as had the suture needles.

The surgeon attempted without success for just over two hours to locate the appendix. He then wisely decided to terminate the procedure and closed the wound with some interrupted 3-0 silk suture. The patient was unclamped from the table and led to his bed nearby. By the end of our second week in camp, the recovered patient was ambulating without problems, eating the usual native cuisine, and was returned to his village.

The hospital area itself was a group of buildings built by the French military in the 1930s. There were two wards with four or five metal cots in each large room for inpatients. The rooms had no doors and no window coverings and, of course, no running water or electricity. The floors were tile covered with dirt and the walls were splattered with mud and blood. There were piles of used syringes and needles outside the buildings.

There was only one native physician covering the military camp where we were housed. The camp was occupied by a detachment of soldiers of the local military who served as our hosts for the deployment. The native physician was a military officer and had a nurse and surgical technician who assisted him in caring for the local populace. Obstetrical cases were handled in the villages either within the families themselves or by village midwives. In the maternity/delivery room at the camp was a rusting, dirt-covered delivery table with a rusty set of baby scales and a few blood-covered rags with a bucket.

MEDICAL ADVENTURES

The second night in camp we were awakened in our bunks by a native midwife requesting medical help. It seemed a 17-year-old primigravida villager was at term with her pregnancy and had been laboring for some time. She had been completely effaced and dilated and was actively pushing for two to three hours. The midwife had nothing further to offer. Both the family physicians in our crew examined the mother and felt the fetus was in a left occiput transverse presentation; the fetal heart tones were approximately 70 to 80 per minute.

There were no forceps available and attempts to manually rotate the fetal head were unsuccessful. The maternal pelvis in the very slightly built teenager was exceedingly small. When questioned, the midwife indicated that there was no other medical help available (it was 2:30 a.m.) and that what usually happened in these cases was fetal demise with possible subsequent maternal morbidity or mortality as well.

We managed to find a few surgical instruments and some xylocaine for local anesthesia along with several packages of 3-0 chromic suture with a very small curved needle. We carried the mother to the operating area and proceeded to perform an abdominal delivery using the local anesthetic and the limited instruments, including a single number 11 surgical blade and clean but not sterile operating gowns and drapes. The only lights available were hand held flashlights and frequently during the operation insects were removed from the operative field and the wound.

Nonetheless, we delivered a male infant weighing about seven and a half pounds who had a one-minute Apgar score of one. The infant was resuscitated by two American nurses and at five minutes an Apgar of eight was awarded the infant. Neither of the two family physicians had practiced any obstetrics in over 10 years and only one of us had even performed C-sections in the past, and then only with a general surgeon assistant. The operation lasted a little over two hours and the mother tolerated the procedure quite well.

The remainder of the 10 days spent in the country was busy and interesting but somewhat anticlimactic after our early morning hour operative adventure. Much of our time was spent caring for the mother post-operatively. There were limited supplies consisting of some few intravenous fluids, including a few precious 80 milligram doses of gentamicin which our new mother received for four days. We had also taken some oral antibiotic samples with us and treated her around the clock with some of these samples for five days.

The patient recovered surprisingly well. She was tachycardic with a systolic blood pressure around 110 and a fever of up to 101.8 degrees Fahrenheit for 48 hours, but she began to respond quite well and was tolerating a clear liquid diet by the end of the second day postop. She was afebrile, eating regular native cuisine and ambulating around the village by the seventh day, and the infant did exceedingly well. The natives named him "George Bush Bah" (the family surname was Bah) and wanted us to take him back to the United States with us.

We saw in the clinics a number of cases of parasitic diseases, including what we presumed to be malaria and schistosomiasis along with a bunch of helminthic infections.

Laboratory support was essentially nonexistent although we did have one microscope and could perform stool exams for ova and parasites. There was no other lab or x-ray available. Major patient complaints included arthralgias, dermatoses, and back pains. Injuries included multiple sprains and abrasions, insect bites, and even two penile injuries from human bites.

One particularly interesting case was a sprained knee which was placed in traction using adhesive tape, used intravenous tubing, and a five pound rock draped over the end of the metal cot. Our innovative capabilities were maximally challenged.

In addition to the medical duties performed, many of the American military personnel were Army "engineers" and they helped to repair and rehabilitate the dilapidated French clinic. Wiring and lights were installed, generators were repaired, plumbing was laid out and the camp water system was renovated. Our bioenvironmental engineering personnel trained the local people on water testing and provided some materials for water purification. The walls of the clinic, inside and out, were painted and floors were swept and mopped. By about the fifth day in the country we were able to take limited showers without hot water.

Exact ages of natives were not easily obtained as most of them had no reason to know their age or the day of their birth. The family unit was large but generally well respected. Males were allowed more than one spouse with the approval of the first spouse. Discussion of medical problems was difficult as we had to first use an English to French interpreter and then a French to native language interpreter, so questions and answers were less than exact, much like passing a "secret" through a chain of people.

On the last day of seeing patients in the clinic, a 30-year-old male came in with abdominal pain and fever. After careful questioning and examination, it became rather apparent he most likely had acute appendicitis. He was taken to the operating arena, fastened down, scrubbed and draped and even shaved with razor blades and soap, and the lower abdomen draped. We were invited to perform an appendectomy using xylocaine local anesthesia with a bit of intravenous diazepam we had brought with us in a medical kit on the airplane. The appendix was found to be acutely inflamed and the patient tolerated the 55 minutes of surgery quite well.

RETURN

We left the village after 10 days and travelled the four hours back to the airport, boarding the C-130 and again spending one night in the Azores. Three hours into the eight-hour return flight from the Azores to New Jersey, a Flight Surgeon was summoned off the flight deck to attend a sick aircrewman in the rear of the aircraft. He was arranged on a litter trapped against the side of the aircraft between the side and a large, ten-foot square pallet of equipment and baggage. One of the flight nurses and the flight surgeon had to essentially hang upside down the side of the pallet to examine and attend the patient.

He was vomiting profusely and had abdominal cramps, a low grade fever, and was diaphoretic. His blood pressure was adequate but low and, as the flight progressed, he developed a good bit of right lower quadrant tenderness with some rebound and had many symptoms of acute appendicitis. We had used all our intravenous supplies in Africa, had no parenteral medications, and were halfway across the Atlantic Ocean at 22,000 feet altitude. We elected to support him as best we could with careful checks and some sips of clear liquids and took him on to the hospital at the military base in New Jersey immediately after landing and clearing American customs. It was nerve-racking for several hours feeling so helpless. He was hospitalized and recovered after a few liters of IV fluids.

One final note is of interest. During the Caesarean delivery in the dark with flashlights both operating physicians inadvertently suffered needle sticks with the small suture needles. Blood from the patient was drawn and tested and found negative for HIV, hepatitis A and B, and lues. Our initial plans when deploying had been not to be involved with any high risk procedures such as surgery, as we were very concerned about the possibility of serious bloodborne diseases such as AIDS, and we were, in fact, not prepared for any such surgical procedures. However, when pressed with medical needs and having little choices, physicians generally do what they feel has to be done, adhering to Hippocratic tenets.

SUMMARY

The volunteer group had a successful trip overall. The local medical facility underwent substantial physical improvements. Sanitation in a limited area was augmented. There was a significant measure of "good will" benefit from the standpoint of an American venture into a developing nation. The National Guard units involved received enhanced training and improved their abilities to deploy. On a personal note, those of us who were given the opportunity to travel to and work in such an austere location gained a sincere appreciation for the genuine blessings of American standards of living. ❐

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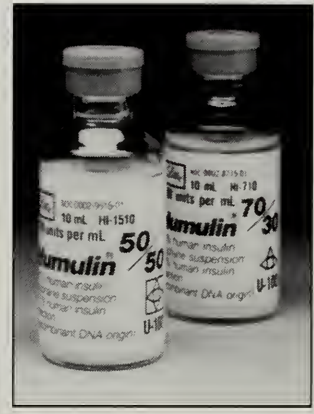

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ERRATUM

In the article, "Development and Implementation of a Multi-Site Junior Core Clerkshop in Family Medicine" (*J SC Med Assoc* 88: 478-481, 1992), the 27 students taught at Greenwood should have been presented as 22% (rather than 14%) of the total.

"Ron's Rule—I give myself one week to meet new people and start having fun on a locum tenens assignment. It hasn't failed me yet."

Ron Richmond, MD, joined the CompHealth locum tenens medical staff when he completed his residency. He wanted to travel. He loves to meet people. A little time off sounded really good. And he thinks being exposed to different types of medical practice will serve him well when he returns to his hometown to establish a community health center.

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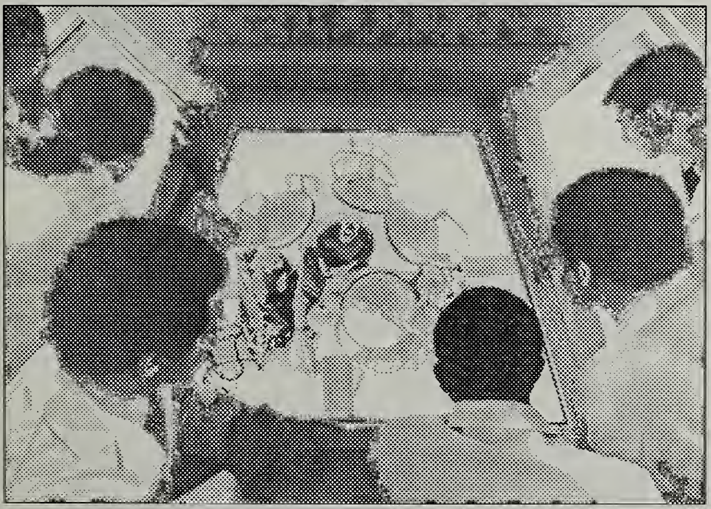

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Editorials

TASTEFUL ADVERTISING

> *It is more fitting for a man to laugh at life than to lament over it.*
> —Seneca

The station wagon rolled across the state line into South Carolina, its license plate betraying the driver's identity. GERMS. Dr. F. Richard Ervin's wise decision to return to the banks of the Pee Dee brought delight for many reasons, including this tasteful advertisement for our mutual subspecialty—infectious diseases. GERMS is back!

Parking lots afford numerous small reminders that life is, after all, to be enjoyed. Some of the plates one sees nowadays tweak the imagination. Did the cardiologist consider ECHO and CATH before settling on P QRS T (Figure l)? Did the intensivist consider PA02 or SVR before settling on SV02 (Figure 2)? As it turns out, N20 and N OXIDE belong to anesthesiologists in the same partnership who both wanted the same plate. N20 got there first, forcing N OXIDE to write it out (Figure 3). I suspect that any large doctors' parking lot contains similar examples. One of my favorites belongs to a busy obstetrician, who prefers to travel in COGNITO.

To what extent are laypersons aware that

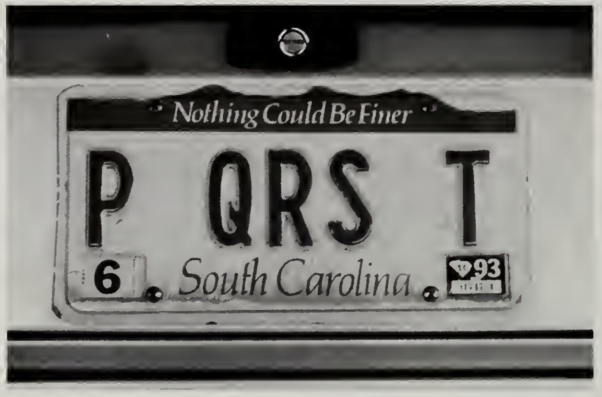


Figure 1. A cardiologist's reminder: stay in sinus rhythm.

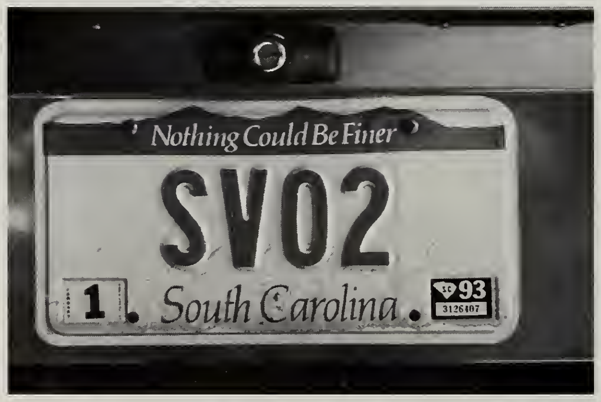


Figure 2. An intensivist emphasizes the systemic venous oxygen tension.

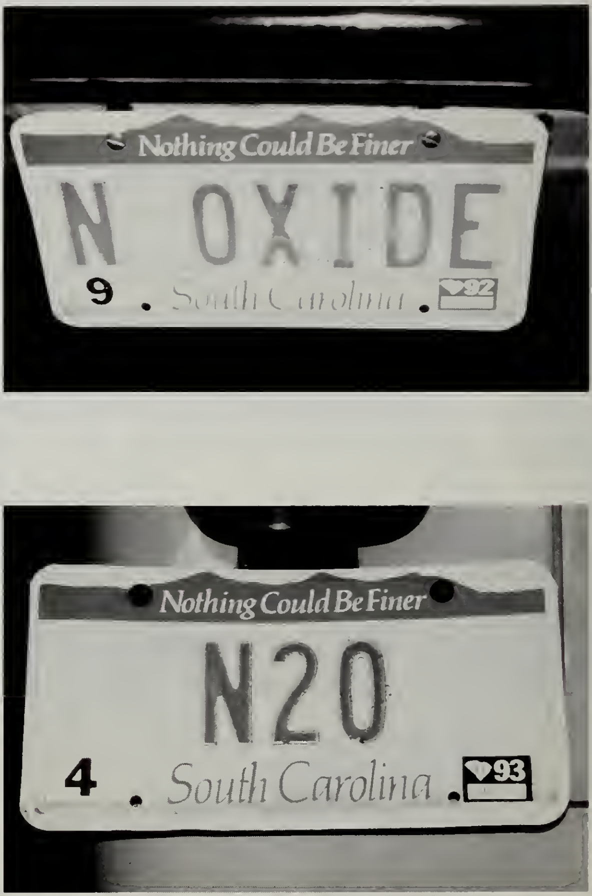


Figure 3. Are these anesthesiologists partners or competitors? (see text)

Figure 4. ER happens to be in the dry cleaning business.

their plates carry medical significance? Does ER (Figure 4) realize that he should be working in an emergency room? Has AVR really undergone aortic valve replacement and—if so—with what kind of prosthesis? Does PTT 209 share my concern about his coagulation system? Is BUN on dialysis? Do CSF and RPR know that they must go their separate ways, since their union would be a sure recipe for neurosyphilis? Well, that's enough.

As we await the Clinton administration's health plan, there is ample reason to be concerned about the future course of medicine. But whatever happens, let's never forget the need to appreciate our profession, each other, and our shared sense of humor. I recall this excerpt from a college class poem, describing the pre-medical student:

> I got an ulcer and a string of A's
> But I would rather flunk than lose my laugh.

Seneca said it all: it's better to laugh than lament. Let's thank those who, like my friend GERMS, give us such gentle reminders not to take ourselves too seriously.

—CSB

THE DOCTOR-PATIENT RELATIONSHIP

To say anything new about this topic is not easy. However, Dr. Richard deShazo of Mobile, Alabama, offers some fresh insights into what he calls "two-way medicine."[1] Here's a distillation:

1. Approach the patient with his/her best interests at heart.
2. Observe the patient's body language. If the patient seems troubled, ask why.
3. Begin by discussing some topic of mutual interest. "Be yourself. Learn to enjoy visiting with your patients."
4. Be relaxed. Sit. Don't look at your watch. Stay focused.
5. At the beginning, allow the patient to speak uninterrupted about his/her problem(s). Patients seldom continue longer than two minutes.
6. At the end, again allow free speech: "Is there anything else you think I need to know?"
7. Touch the patient if it feels like the right thing to do. If in doubt, don't.
8. Be courteous and avoid condescending terms.
9. Explain. Use straightforward terms.
10. Allow the patient the option to accept or decline your recommendation.
11. Never argue with the patient.
12. Make a full disclosure.
13. Give the patient something to take home: a prescription; a handout; and/or—most important—your continued commitment.

Thanks, Rick deShazo!

—CSB

REFERENCE

1. deShazo RD: Two-way medicine: strategies for improving doctor-patient relationships. South Med J 86: 27-29, 1993.

On the Cover:

"THE GREAT AMERICAN FRAUD"

Recent headline: "Folk cures and herbal teas: For many, the doctor is out." The Associated Press article which follows tells us that for a variety of physical complaints, one-third of all Americans seek relief outside the mainstream of allopathic medicine, spending $14 billion a year on various therapies and cures, from biofeedback to acupuncture. This is not new.

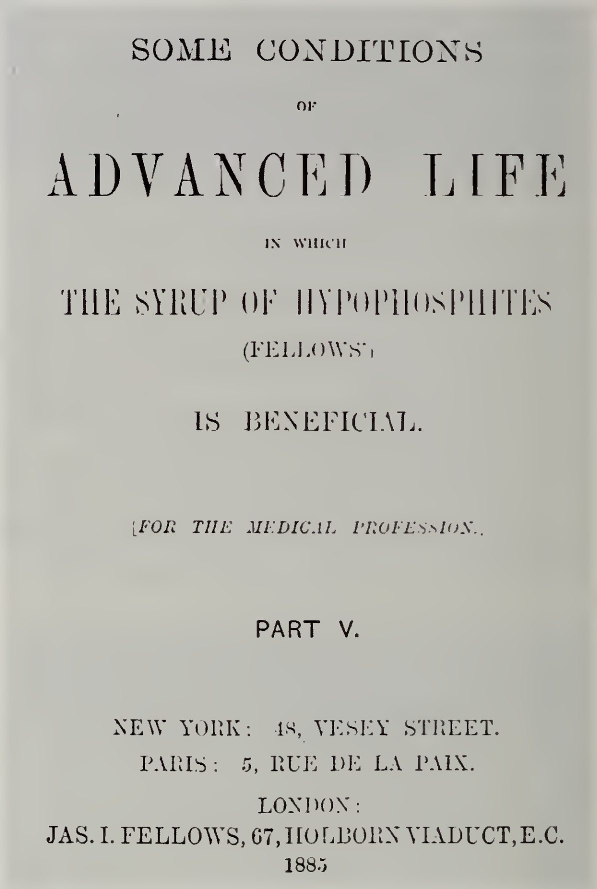
From the birth of America, this country has been fertile ground for the propagation of quackery in many guises. The first such devise to receive a patent was a set of metal rods called "tractors," invented by Elisha Perkins in 1796. These tractors, by being stroked across the affected part and drawing off the noxious electrical fluid, brought "blessed relief" for pains in the head, face, teeth, etc.

Pictured on this month's cover is a full page advertisement from the *Carolina Medical Journal* of 1901. This particular nostrum is of interest because it, unlike many earlier "cures," was advertised "only to the medical profession." As late as 1915 Fellow's proprietary syrup was not spending a cent in advertising direct to the public, but 90 percent of its sales were over the counter."[1]

The use of preachers and doctors in their promotions was a favorite technique of purveyors of quack remedies. On January 1, 1860, the Medical Society of South Carolina passed the following:

"RESOLVED. That it is beneath the dignity of any member of the Medical Society of South Carolina to attend free of charge any Clergyman or his family who shall hereafter employ Homeopathic or other irregular practitioners, or who shall publicly recommend any nostrum or quack medicine."

Betty Newsom
The Waring Historical Library



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[FOR THE MEDICAL PROFESSION.]

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JAS. I. FELLOWS, 67, HOLBORN VIADUCT, E.C.
1885

Figure. A booklet distributed to physicians extolling the virtues of Fellows' syrup.

On April 22, 1993, The Annual Meeting of the Waring Library Society will present Dr. James Harvey Young who will speak on "The History of Health Quackery in America: A Panoramic View." The public is invited. For further information, call (803) 792-2288.

REFERENCE

1. Young, James Harvey. The Toadstool Millionaires. Princeton University Press, 1961.

President's Page

SAYING THANKS AND LOOKING AHEAD

I take this opportunity, in my final President's Page, to sincerely thank all the members of our association for your support this past year. All of the unsung, hardworking members of committees who have labored so diligently in carrying out the policies set forth by our House of Delegates, all of the board members and the members of the very capable staff assembled by Mr. William Mahon. To one and all, thank you and Godspeed.

The house of medicine is strong and, as was witnessed at the called meeting of the membership in Columbia on February 21, 1993, we stand united. We can now begin to regain the control which we elected to delegate to various third party payers, beginning in the early '60s. Our task is arduous, but definitely achievable and will be most rewarding. A statewide Physicians Care Network that really cares for patients, places our patients at the center and allows us the reinstated privilege of being the very best advocate for our patients. Let us take advantage of the window of opportunity, labeled "health care reform," and re-establish the role of physician advocate. We, not insurance companies and/or attorneys and/or governments, know what is best for our patients. We are also learning to provide this care in the most responsible, cost effective manner. Keeping the administrative funds within the practice of medicine will go a long way to help lower the cost of medical care.

In setting up this new Physicians Care Network, we must remember to work closely with the South Carolina Hospital Association, South Carolina Nurses Association, and the South Carolina Dental Association. There may be others. To exclude them invites division. Yes, it is difficult to build consensus, but it is one of the most effective ways to accomplish progress for the common good.

I have thoroughly enjoyed my year as your president and pledge my full support to our new president, Dr. Ed Catalano.

Bartolo Barone, M.D.

Bartolo M. Barone, M.D.
President

The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89
APRIL 1993
NUMBER 4

Contents

One Hundred Forty-Fifth Annual Meeting

163 **Introduction**
164 **Schedule of Events**
179 **Delegates and Alternates**
182 **Officer Reports**
191 **Committee Reports**
198 **Report of the Editor**
199 **SCIMER Report**
199 **SCMA MIT Report**
200 **Report of the Executive Vice President**
201 **DHEC Report**
206 **DSS Report**
209 **Resolutions**
210 **AMA Special Guest**
213 **SOCPAC Luncheon Speakers**
215 **Featured Entertainment**
218 **Exhibitors**

Editorials

220 **When Democrats Last in the Dooryard Bloom'd**
Charles S. Bryan, M. D.

221 **What is Past is Prologue**
Charles S. Bryan, M.D.

Features

225 **Auxiliary Page**
222 **Letter to the Editor**
224 **On The Cover**
159 **President's Page**

Association

201 **Gray Matter**
175 **SCMA Newsletter**

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The Journal
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89 APRIL 1993 NUMBER 4

THE ONE HUNDRED FORTY-FIFTH ANNUAL MEETING

THE OMNI HOTEL, CHARLESTON, SOUTH CAROLINA
APRIL 22 - APRIL 25, 1993

The 145th Annual Meeting of the South Carolina Medical Association will mark 13 consecutive years in Charleston and the seventh consecutive year at the Omni Hotel.

Information regarding the meeting, including registration form and hotel reservation form, has been mailed to all South Carolina physicians, but if you have not received this information, call SCMA Headquarters in Columbia (798-6207 or 1-800-327-1021). Again, there is no registration fee for SCMA members, and pre-registration is encouraged.

The House of Delegates meets to consider the business of the association on Friday, April 23, and again on Sunday morning, April 25. Reference Committees will meet on Thursday afternoon.

A total of 14 AMA Category I and 14 AAFP Prescribed hours have been approved for scientific sessions beginning on Wednesday afternoon and continuing through Saturday afternoon. Of particular interest are the SCMA Plenary Sessions with the theme of "Together: Working to Improve the Health Care of South Carolinians." Consult the schedule of events which follows for details on all programs.

Special guests for this annual meeting include James Todd, MD, Executive Vice President of the American Medical Association. The SOC-PAC luncheon speakers are Representatives James Clyburn (D, Sixth Congressional District), and Robert Inglis (R, Fourth Congressional District).

Again this year, the SCMA will serve as the umbrella organization for many specialty societies who will hold business and scientific sessions during the Annual Meeting.

The SCMA Board of Trustees will meet on Thursday, April 22 and at breakfast each day to consider business which arises during the House of Delegates meeting.

Of special interest, "Carolina Alive" will provide the entertainment at the President's Inaugural Banquet on Saturday evening, April 24.

This issue of *The Journal* contains reports and resolutions available at publication deadline. Additional reports and resolutions received after this issue has gone to press will be included in the delegates' handbooks which will be mailed prior to the meeting. Delegates are asked to bring their handbooks to the meeting or to pass them along to alternate delegates if they are unable to attend.

— JD

ONE HUNDRED FORTY-FIFTH ANNUAL MEETING
SCHEDULE OF EVENTS

Wednesday, April 21, 1993

TIME/LOCATION	EVENT
11:30 a.m.-1:30 p.m. Home of Mrs. Peter C. Gazes 21 Country Club Drive	Auxiliary Past President's Luncheon
2:00 p.m.-5:00 p.m. 2nd Floor Lobby	Auxiliary Registration—Open
3:30 p.m.-4:30 p.m. Jenkins/King Room	Auxiliary Executive Board Meeting
4:00 p.m.-5:00 p.m. 2nd Floor Lobby	Cookbook Autograph & Tasting Session

Thursday, April 22, 1993

TIME/LOCATION	EVENT
7:00 a.m.-8:00 a.m. Louis's Charleston Grill	SCMA Board of Trustees Breakfast
7:00 a.m.-11:30 a.m. 2nd Floor Lobby	Auxiliary Registration—Open
7:30 a.m.-8:45 a.m. Magnolia Ballroom	Auxiliary Exhibit Walk Breakfast
8:00 a.m.-12:00 noon Colleton Room	SCMA Speakers Training Program Brenda McClain, McClain Communications
9:00 a.m.-12:00 noon Magnolia Ballroom	Auxiliary House of Delegates
11:30 a.m.-7:00 p.m. 2nd Floor Grand Hall	SCMA Registration—Open
12:00 noon-2:00 p.m. Willow Ballroom	Auxiliary Anniversary Celebration Luncheon
12:00 noon-2:00 pm Beauregard Room	SCMA Maternal, Infant, Child Health Committee Luncheon Meeting
12:15 p.m.-1:00 p.m. Louis's Charleston Grill	SCMA Board of Trustees Luncheon
1:00 p.m.-5:00 p.m. Jenkins/King Room	SCMA Board of Trustees Meeting

Thursday, April 22, 1993 (continued)

TIME/LOCATION	EVENT
1:00 p.m.-5:00 p.m. Drayton Room	SCMA Plenary Session "What's New in..."
1:00-1:20	Anaphylaxis: Charles H. Banov, MD, Charleston
1:20-1:40	General Surgery: David B. Adams, MD, MUSC
1:40-2:00	Cardiology: James F. Spann, Jr., MD, MUSC
2:00-2:20	Pediatrics: Walton Ector, MD, MUSC
2:20-2:40	Break
2:40-3:00	Urology: John C. Rawl, MD, Columbia
3:00-3:20	Anesthesiology: Kenneth G. Varley, MD, Columbia
3:20-3:40	Break
3:40-4:00	Obstetrics: Alexander R. Smythe, II, MD, Columbia
4:00-4:20	Psychiatry: Thomas McCullough, MD, USCSM (Sponsored by The Upjohn Company)
4:20-4:40	Neurology: Timothy D. Carter, MD, MUSC
4:40-5:00	Ophthalmology: Hunter R. Stokes, Sr., MD, Florence
1:30 p.m.-4:30 p.m. Colleton Room	SCMA Speakers Training Program Brenda McClain, McClain Communications
3:00 p.m.-7:00 p.m. Dogwood/Cypress/Live Oak Ballrooms and Grand Hall	Exhibitors Setup

Friday, April 23, 1993

7:00 a.m.-5:00 p.m. 2nd Floor Grand Hall	SCMA Registration—Open
7:00 a.m.-8:00 a.m. Louis's Charleston Grill	SCMA Board of Trustees Breakfast
7:00 a.m.-8:00 a.m. Hampton Room	SCMA Past Presidents' Breakfast
7:00 a.m.-8:00 a.m. Edmund Room	Specialty Society Delegates Meeting
7:00 a.m.-8:00 a.m. Gadsden Room	Editorial Board Breakfast
7:00 a.m.-8:00 a.m. Fenwick Room	Residents Breakfast Meeting (Sponsored by the AMA Resident Physicians Section)
7:30 a.m.-8:30 a.m. Booths 22 & 65	Coffee

SCHEDULE OF EVENTS

Friday, April 23, 1993 (continued)

TIME/LOCATION	**EVENT**
7:30 a.m.-6:00 p.m. Dogwood/Cypress/Live Oak Ballrooms and Grand Hall	Exhibits Open
8:00 a.m.-11:30 a.m. Willow/Magnolia Ballrooms	SCMA House of Delegates
9:45 a.m.-10:45 a.m. Booths 22 & 65	Coffee
10:00 a.m.-11:00 a.m. Riley Room	MUSC Medical Alumni Board Meeting
10:00 a.m.-12:00 noon Colleton Room	SC Cardiopulmonary Rehabilitation Association Board of Directors Meeting
11:30 a.m.-12:30 p.m. 2nd Floor Grand Hall	SC Cardiopulmonary Rehabilitation Association Registration
12:00 noon-1:30 p.m. Louis's Charleston Grill	SCMA Young Physicians' Section Luncheon and Meeting
12:30 p.m.-1:30 p.m. Edmunds Room	Reference Committee Chairmen's Luncheon
12:30 p.m.-2:30 p.m. Riley Room	Risk Management Committee Luncheon and Meeting
12:30 p.m.-5:00 p.m. Magnolia Ballroom	SC Cardiopulmonary Rehabilitation Association Symposium Opening Remarks: Christie B. Hopkins, MD, President "Randomized Trial of Cost-Effectiveness of Cardiac Rehabilitation" Neil B. Oldridge, PhD, University of Wisconsin School of Allied Health Professions, Milwaukee, WI "The Sudden Cardiac Death/AICD Patient and the Role of Cardiac Rehabilitation" Nancy H. King, RN, Providence Hospital, Columbia "Our World of Value – Some Thoughts on Behavior Change" John R. Ureda, PhD, University of South Carolina "Women and Cardiovascular Disease" J. Larry Durstine, PhD, University of South Carolina

Friday, April 23, 1993 (continued)

TIME/LOCATION	EVENT
	“How to Translate Cholesterol Guidelines into a Practical and Effective Program” Ron Goor, PhD, Rockville, MD
12:45 p.m.-2:15 p.m. Willow Ballroom	MUSC Alumni Luncheon
1:00 p.m.-3:00 p.m. Hampton Room	SCMA Workshop: "Geriatrics" “Alternative Health Care for the Frail Elderly” G. Paul Eleazer, MD, USC School of Medicine “Rational Use of Medications in the Elderly” Leslye C. Pennypacker, MD, MUSC "Falls in the Elderly” Charles D. Petit, MD, USC School of Medicine “Exercise for the Elderly” William M. Simpson, Jr., MD, MUSC
1:00 p.m.-5:00 p.m. Jenkins/King Room	SC Dermatological Association Business Meeting and Scientific Session “Herpes Virus Infections in the Immunocompromised Host” Franklin P. Flowers, MD, University of Florida Gainesville, FL (Sponsored by Burroughs Wellcome) “Itch” Jeffrey D. Bernhard, MD, University of Massachusetts (Sponsored by Westwood-Squibb) “Psoriasis-Therapy with New Immunosuppressive Agents” Brian V. Jegasothy, MD, University of Pittsburgh, Pittsburgh, PA (Sponsored by Glaxo Dermatology) “Insights into Refractory Eczema” William P. Jordan, MD, Richmond, VA (Supported in part by Schering Dermatology and Hoechst-Roussel Pharmaceuticals, Inc.)
1:30 p.m.-3:00 p.m. Fenwick and Gadsden Rooms Suite 2H and Suite 2J	SCMA Reference Committee Meetings (Specific room assignments will appear in Delegates Handbook)
2:00-4:30 p.m. Beauregard Room	SC Chapter of the American Academy of Pediatrics/ CRS Combined Scientific Session ”Current Issues for the Pediatrician”

Friday, April 23, 1993 (continued)

TIME/LOCATION	EVENT
	"Otitis Media" Colin Marchant, MD, New England Medical Center, Boston, Mass. (Sponsored by Lederle Laboratories)
	"Sinusitis in Children" George M. Johnson, MD, MUSC
	"How the CRS can Help the Practicing Pediatrician" Ronald C. Porter, MD, Columbia
2:15 p.m.-3:15 p.m. Booths 22 & 65	Coffee Break
2:30 p.m.-4:00 p.m. Edmunds Room	SC Society of Plastic & Reconstructive Surgeons Scientific Session
	"Breast Reconstruction and the Implant Question" W. Bryan Rogers, III, MD, Greenville
	"Craniofacial Surgery" Rami Kalus, MD, USC School of Medicine
	"Lower Leg Reconstruction" Steven K. White, Sr., MD, Myrtle Beach
3:00 p.m.-5:00 p.m. Drayton Room	SCMA Workshop: "How you can Reduce the Risk of Visual Loss from Diabetic Retinopathy in South Carolina by 50 Percent"
	"Diabetic Retinopathy: A Major Cause of Blindness in South Carolina" V. Al Pakalnis, MD, USC School of Medicine
	"The Ocular Complications of Diabetes: Diabetic Macular Edema (DME) – The Most Common Cause for Visual Loss Among Diabetics, Detection, Management and Treatment" Lowery P. King, MD, MUSC
	"Proliferative Diabetic Retinopathy (PDR): Detection, Management and a Common Cause of Sudden Visual Loss Among Diabetics" Hugh C. Gaskin, MD, Florence
	"Diabetic Retinopathy and the Role of the Primary Care Physician" Ronald C. Mayfield, MD, MUSC
	"Vitrectomy Surgery for Retinopathy too Advanced for Laser Surgery" V. Al Pakalnis, MD, USC School of Medicine

Friday, April 23, 1993 (continued)

TIME/LOCATION	EVENT
3:00 p.m.-5:00 p.m. Willow Ballroom	SCMA Risk Management Program "Communicating the Solution to Medical Malpractice" Edward E. Bartlett, PhD, Rockville, MD
3:00 p.m.-5:00 p.m. Fenwick and Gadsden Rooms/Suite 2J	SCMA Reference Committee Meetings (Specific room assignments will appear in in Delegates Handbook)
4:00 p.m.-6:00 p.m. Dogwood/Cypress/Live Oak Ballrooms and Grand Hall	SCMA Reception Honoring Delegates, Alternates, Speakers and Exhibitors (All Registrants Welcome)
5:00 p.m.-6:30 p.m. SCCRA President's Suite	SC Cardiopulmonary Rehabilitation Association Reception
5:00 p.m.-7:00 p.m. Ashley Cooper Room	USC School of Medicine Alumni and Faculty Reception
5:30 p.m.-7:30 p.m. Suite 2G	SC Chapter of the American Academy of Pediatrics Cocktail Reception
6:30 p.m. Beauregard Room	MUSC Reunions Class of 1948
7:00 p.m. Home of Dr. and Mrs. Fletcher Derrick, 12 Orange Street	Class of 1958
7:00 p.m.-10:00 p.m. The Old Exchange Building	SC Society of Anesthesiologists Reception and Dinner Guest Speaker: Wilson C. Wilhite, Jr., MD, University of California at LA School of Medicine, Los Angeles, CA "The Anesthesiologist, the Government and the Law"
6:30 p.m. "Spirit of Charleston" Dinner Cruise	MUSC Reunion Class of 1983
7:00 p.m.-8:00 p.m. Colleton Room	SC Radiological Society Cocktail Reception
7:00 p.m. Willow II Ballroom Willow I Ballroom	MUSC Reunions Class of 1968 Class of 1973
7:30 p.m. Sebring-Aimar House	MUSC Reunion Class of 1953
7:30 p.m.-9:00 p.m. The Festival Club	SC Dermatological Association Reception

SCHEDULE OF EVENTS

Saturday, April 24, 1993

TIME/LOCATION	EVENT
7:00 a.m.-5:00 p.m. 2nd Floor Grand Hall	SCMA Registration—Open
7:30 a.m.-8:30 a.m. Gadsden Room	SC Society of Anesthesiologists Breakfast Meeting
7:30 a.m.-8:30 a.m. Louis's Charleston Grill	SCMA Board of Trustees Breakfast
7:30 a.m.-8:30 a.m. Suite 2J	SC Radiological Society Breakfast Meeting
7:30 a.m.-9:00 a.m. Fenwick Room	SC Chapter of the American Academy of Pediatrics Executive Committee Meeting
7:45 a.m.-8:45 a.m. Booths 22 & 65	Coffee
8:00 a.m.-1:00 p.m. Dogwood/Cypress/Live Oak Ballrooms and Grand Hall	Exhibits Open
8:00 a.m.-12:00 noon Edmunds Room	SC Society of Vascular Surgeons Scientific Session and Business Meeting
	Scientific Papers
	“Progress in Management of Thoracoabdominal Aortic Aneurysms” Lars Svensson, MB, Lahey Clinic, Burlington, MA
	Case Presentations
8:00 a.m.-12:00 noon Jenkins/King Room	SC Dermatological Association Scientific Session
	“Toxic Epidermal Necrolysis” Franklin P. Flowers, MD, University of Florida Gainesville, FL (Sponsored by Burroughs Wellcome Co.)
	“Scratch” Jeffrey D. Bernhard, MD, University of Massachusetts Worcester, MA (Sponsored by Westwood-Squibb)
	“Contact Dermatitis, the Good, the Bad and the Ugly” William P. Jordan, Jr., MD, Richmond, VA (Sponsored in part by Schering Dermatology and Hoechst-Roussel Pharmaceuticals, Inc.)

Saturday, April 24, 1993 (continued)

TIME/LOCATION	EVENT
	“An Update on Lasers” Pearon G. Lang, MD, MUSC
8:00 a.m.-12:00 noon Beauregard Room	SC Association of Neurological Surgeons Scientific Scientific Session and Business Meeting
	“Update on Antibiotic Treatment in Central Nervous System Infections” F. Richard Ervin, MD, Florence
	“Ethical Problems in Neurosurgery”—Case Presentations Nora Bell, PhD, University of South Carolina
8:30 a.m.-11:30 a.m. Magnolia Ballroom	SCMA Plenary Session: “Infectious Diseases in Ambulatory Care” Moderator: Charles S. Bryan, MD, USC School of Medicine
	“HIV/AIDS in Office Practice” Robert T. Ball, MD, DHEC
	“Antibiotics for Outpatients” J. John Weems, MD, Greenville Hospital System
	“Immunization: What's Current” Ronald B. Turner, MD, MUSC
	“Respiratory Infection: What's New?” Charles S. Bryan, MD, USC School of Medicine
	“Travel Medicine” J. Robert Cantey, MD, MUSC
	“Cat Scratch Disease: New Answers?” H. Preston Holley, MD, MUSC
	“Newly-recognized Pathogens” Ludwig A.Lettau, MD, Greenville Hospital System
8:30 a.m.-12:00 noon Suite 2H	SC Radiological Society Scientific Session
	“Imaging of Vision” Patricia Davis, MD, Egleston Hospital, Atlanta, GA
	“Neonatal Head Ultrasound” Andrew Fried, MD, University of Kentucky, Louisville, KY
	“CNS Imaging of Aging Dementia and Degenerative Diseases’ Patricia Davis, MD

Saturday April 25, 1993 (continued)

TIME/LOCATION	EVENT
	“Doppler Abdominal Ultrasound” Andrew Fried, MD
8:30 a.m.-12:00 noon Drayton Room	SC Society of Anesthesiologists Scientific Session “Management of the Difficult Pediatric Airway” Larry J. Frazier, MD, USC School of Medicine “Somato-Sensory Evoked Potential Monitoring” Joanne Conroy, MD, MUSC
8:30 a.m.-12:30 p.m. Willow Ballroom	SC Cardiopulmonary Rehabilitation Association Symposium “Smoking Cessation” Nancy Houston Miller, RN, Stanford University, Palo Alto, CA “New Trends in Interventional Cardiology” Dave Talley, MD, University of Louisville School of Medicine, Louisville, KY “Lipid Management” Peter O. Kwiterovich, MD, Lipid Research Clinic, Johns Hopkins University, Baltimore, MD “Regression of Cardiovascular Disease” William L. Haskell, PhD, Stanford University School of Medicine, Palo Alto, CA “Starting a Pulmonary Rehabilitation Program in a Cardiac Rehabilitation Setting” Carl N. King, EdD, Moses Cone Hospital, Greensboro, NC
8:45 a.m.-12:00 noon Hampton Room	SC Neurological Association Meeting
9:00 a.m.-12:00 noon Colleton Room	SC Chapter of the American Academy of Pediatrics Scientific Session “Recent Advances in Childhood Leukemia” Michael Trigg, MD, University of Iowa, Iowa City, IA (Sponsored by Mead Johnson) “Bone Marrow Transplants for Childhood Cancer” Jean Henslee-Downey, MD, Center for Cancer Treatment, Richland Memorial Hospital

Saturday, April 24, 1993 (continued)

TIME/EVENT	LOCATION
	"Brain Tumors in Children" Ron W. Neuberg, MD, Center for Cancer Treatment, Richland Memorial Hospital "Psychosocial Support for Children with Cancer" Sue Heiney, RN, Center for Cancer Treatment, Richland Memorial Hospital
9:30 a.m.-11:00 a.m. Suite 2G	SOCPAC Board Meeting
10:00 a.m.-11:30 a.m. Riley Room	SCIMER Board Meeting
10:00 a.m.-12:00 noon Suite 2J	SC Society of Pathologists Business Meeting
10:15 a.m.-11:15 a.m. Booths 22 & 65	Coffee Break
11:00 a.m.-1:30 p.m. Gadsden Room	SCMA Sports Medicine Committee Luncheon Meeting
12:15 a.m.-1:00 p.m. Louis's Charleston Grill	SC Radiological Society Reception
12:45 p.m.-2:15 p.m. Magnolia Ballroom	SOCPAC Luncheon Guest Speakers: Congressmen Robert Inglis and James Clyburn
1:00 p.m.-3:00 p.m. Louis's Charleston Grill	SC Radiological Society Luncheon and Meeting
2:00 p.m.-4:00 p.m. Colleton Room	SC Society of Pathologists Scientific Session "What's New in Clinical Chemistry" John C. Cate, IV, MD, MUSC
2:00 p.m.-5:00 p.m. Drayton Room	SCMA Committee on Sports Medicine's Scientific Session: "Sports Medicine Injury Prevention" "Update on Healthy People 2000: The Fitness Perspective" William F. Riner, PhD, Lancaster "High School, College or Professional Athletics" Larry Lemak, MD, Alabama Sports Institute, Birmingham, AL

Saturday, April 24, 1993 (continued)

TIME/LOCATION	EVENT
	"The Role of Therapy in Sports Medicine Injury Prevention" David Adams, MS, ATC, Lubbock, TX
	"The Role of Combined Orthopaedics and Pediatrics in Sports Medicine Injury Prevention" Richard D. Gardner, MD, Gaffney
	"Injury Prevention in College Athletics" Fred Hoover, Clemson University
2:30 p.m.-4:00 p.m. Fenwick Room	South Carolina Society of Internal Medicine Executive Committee Meeting
6:30 p.m.-7:30 p.m. Dogwood/Cypress Ballroom	SCMA President's Reception (Sponsored by Carolina Physicians Advisory Service)
7:30 p.m.-12:00 a.m. Live Oak/Magnolia/Willow Ballrooms	SCMA President's Inaugural Banquet (Featured Entertainment: "Carolina Alive")

Sunday, April 25, 1993

7:00 a.m.-10:30 a.m. 2nd Floor Grand Hall	SCMA Registration—Open
7:30 a.m.-8:30 a.m. Louis's Charleston Grill	SCMA Board of Trustees Breakfast
8:30 a.m.-12:30 p.m. Dogwood/Cypress/Live Oak Ballrooms	SCMA House of Delegates
12:30 p.m.-1:00 p.m. Drayton Room	SCMA Board of Trustees Reorganization Meeting

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	Oswald L. Mikell, MD
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CHESTER	Sam Stone, MD
Alternate:	Edwin Hentz, MD
CHESTERFIELD	
COLLETON	Frank Biggers, MD
	Michael Hawkins, MD
Alternates:	Riddick Ackerman, III, MD
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COLUMBIA	Richard M. Bell, MD
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	John Funke, III, MD
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	Robert Speir, MD
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OFFICER REPORTS

THE PRESIDENT

Mr. Speaker, members of the House, invited guests. It has been a distinct pleasure and a personal privilege to serve as your 129th president. Thank you for this once in a lifetime opportunity. Traveling over the state was an educational and happy experience - meeting new friends, trying to understand the anxiety relating to the modern-day practice of medicine, and seeking some solutions.

As a first order of business, I would be remiss if I did not take a moment to thank the members of the Board of Trustees for their support. I also thank Bill Mahon and the excellent staff he has assembled. The following are in attendance today, and I would like for them stand as I call their names; please hold your applause until all are recognized. First, Bill Mahon. He is always there, ready to help. He has a wealth of experience that can answer many questions. Barbara Whittaker, an expert in the realm of Medicare, Medicaid and governmental regulations. Steve Williams, available to give legal advice to all our members. Please feel free to call him at any time. Jan McKellar enjoys the credibility of the members of the State House and Senate and has been helpful to me as a staff person on the Free Medical Clinic Task Force. Wayne Cox keeps us all financially sound as the Finance Officer and helped me tremendously in my term as Treasurer. Joy Drennen staffs the Risk Management Committee, one of the many hard-working committees of your organization and has also kept me current with the articles prepared for the President's Page in *The Journal*. Suzanne Hellams is in charge of public relations. Her function has grown this past year by enlarging the scope of the Public Relations Committee. For all future officers of this association, this is the staff person who can be of tremendous help when you are called upon by the media for a comment. If you feel that you have insufficient knowledge to comment, delay your answer, call Suzanne, and she will provide you with the valued facts. Ginny West is our new administrative assistant to the board, and Audria Belton is our new Information Assistant. Debbie Shealy staffs many of the specialty societies' functions and is also responsible for the able coordination of this annual meeting, no small task. Cathy Boland, Patricia Crumpton, and Pam Taylor also travel from Columbia to help with the varied secretarial duties associated with our meeting. Thank you one and all. You have made my job more enjoyable.

There is an old French proverb: "Plus ca change, plus c'est la meme chose" – the more things change, the more they remain the same. We are well into the Clinton administration; CHANGE. The poor and the sick have been with us since time began, and they will be with us until time ends. I am certain that won't change. As Hippocrates said, "to pass our lives and practice our art with purity and holiness." That is an ideal no one can take away from us. We must remain professional, we must keep our patients at the center, and we must demonstrate that we care. This past year, members of the association have been hard at work implementing the Commun-I-Care Program, in which an 800 number is provided for patients around the state who have no health care coverage. Patients can call this number and receive one free appointment to see a physician for non-emergency care. This provides initial access to the medical care system for these elective patients who are less fortunate than we. Yes, we all see patients for free, and yes, we also see patients who pay us less than our costs; and yes, we need more physicians to sign up for this program. There are approximately 6,000 licensed physicians in South Carolina. If the majority are signed up, the load would be distributed to the point where no MD would be overburdened. Please call 1-800-327-1021 if you have not already agreed to serve. There are over 540,000 citizens of South Carolina who have no present access to medical care.

I am happy to report that there are over 30 totally free clinics around the state presently established and seeing patients, and there are more in the planning stages. Obviously, after a patient is seen one time in the Commun-I-Care Program, it could be possible to refer those patients to these free clinics for further continuity of care. These clinics are also able to accommodate retired physicians who wish to donate their services and expertise, free of charge. Malpractice coverage is provided by a program set up by the JUA, and a special volunteer license can be granted by the State Board of Medical Examiners, after appropriate application. Please make an effort to get involved with your local free clinic. The profession of medicine has always responded to an appropriate need. In the retrenchment of the nineties and with all of the rhetoric on health care reform, the reform must start with us. Only we can practice medicine. The politicians and the insurance people do not know how to practice medicine. In most instances, simply throwing money at the problem does not solve it. Look at the various entitlement programs and the billions of dollars that have been spent. The private sector has to become reinvolved. Physicians and the private sector have done it before. We can muster the strength and the will to do it again.

There is also in place a Patients' Foundation of South Carolina, a tax-free foundation, that can accept donations from any source to help defray the hospital costs of our patients who are seen in our offices or at these free clinics. Please remember the Foundation when you receive your policyholder dividend check from the JUA. The money to pay these premiums initially came from our patients. Why not consider giving some back? And remember the Patients' Foundation of South Carolina in your plan for giving in 1993. The address is: Post Office Box 210917, Columbia, SC 29221.

An additional positive, in my book, is that we see less image advertising by hospitals, physicians or free-standing centers. These monies spent on the care of patients is better spent than enriching the media. It is also encouraging to see hospitals beginning to collaborate and cooperate with one another to avoid some of the costly duplication of services. In some instances, hospitals are also merging to decrease the number of empty beds. More needs to be done in this area. It is encouraging that the Columbia Medical Society is looking into a demonstration project sponsored by the American Healthcare Executives to work on an integrated provider network with the four Columbia hospitals. It is also encouraging that the Charleston County Medical Society has a working committee that functions as a sounding board and facilitator to help keep the dialogue going for the six hospitals in the tri-county area. We need more initiatives like these around the state. The Physicians Care Network (PCN), is a statewide economic, not for profit unit under the auspices of the SCMA. It will provide a more cost-effective health program for self-insured companies or networks and truly deserves your support. We could regain the control of the practice of medicine from the third party payers. Just imagine, no more arguments with a screening person on the other end of the phone, 800 miles away, who is telling us that our patient doesn't need to be in the hospital or that such a test is not necessary.

Let us seriously look at physician participation in for-profit joint ventures. The public perceives that making a profit from their illness is incorrect, and I agree. That perception dates back to the doctor-owned drug stores many years ago. Now it is imaging centers, surgery centers, radiation therapy centers, physical therapy facilities, etc. Let us listen to the public and do the correct thing.

These comments are meant to stimulate your thinking, both for elements in the past as well as possibilities for the future. The main lesson is to stick together; remember, "United we stand, divided we fall." If there was ever a time to become involved in organized medicine or to encourage your colleagues at home to become involved, now is that time.

Again, thank you for your support and for your trust in me, and as I stated in my inaugural address one year ago, and I quote from Mr. W. C. Fields, "Have fun and stay number one."

Bartolo M. Barone, MD
President

THE CHAIRMAN OF THE BOARD

Your SCMA Board of Trustees has spent considerable time this past year educating itself about the inevitable change that is to occur in our health care system. We initially attempted to write a health care bill to be introduced in our state Legislature. While this was an educational tool for the board, the bill was incomplete, appeared to be self-serving and we surmised that it had no chance of passing. However, the board developed certain positions during their exercise that will help in the future debate. For instance, we believe that Health System Reform is needed and that all individuals should have a basic benefit plan or package that allows them access to care. In addition, the board agreed to accept the state employee fee schedule as a base schedule with the cost of living increases based on the medical market basket. The board also recognized the need for more primary care and rural practice physicians and has taken a position that there should be financial incentives for these physicians.

We have met with the South Carolina Hospital Association and have discussed in detail the American Hospital Association's Networking Program proposal. From these meetings came a joint proposal to support a legislative bill that included a Health Care Council, demonstration projects of Health Care Networks and to place a moratorium on further health care legislation in this year's legislative session.

We realized that here was a compelling need to develop our own provider network which could be an economic unit that would enable us to respond to changes as they occur. Many of you learned about the Physicians Care Network (PCN) at our recent special called meeting of our membership. The response to the PCN has been excellent. A policy committee has been appointed and has scheduled a meeting for mid-March. You should have received your contracts by the time you read this report and hopefully all of you will sign up. We are all excited about the development of the PCN and will give you a follow-up report at the Annual Meeting.

Aside from health system reform, the board has been busy in other areas. Our entire membership should be proud of Randy Smoak's election to the AMA Board of Trustees. You may recall that Randy fell two votes short in the 1991 election. He led the ticket in 1992. Randy is the first SCMA member to be elected to the AMA Board of Trustees since Dr. Julian Price of Florence some 30 years ago. Your contributions to Randy's campaign were greatly appreciated. Another highlight during the year was the development of Commun-I-Care, a project spearheaded by SCMA President, Bart Barone. This project brought about a coalition with the Palmetto Project, the South Carolina Department of Social Services, Blue Cross/Blue Shield of South Carolina and the Samuel Freeman Charitable Trust. This project allows those in need access to volunteer physicians, free of charge, through a toll-free number. Hopefully, we will have many volunteers and the number of visits will not strain anyone.

In retrospect, the 1992 legislative session was relatively quiet as the Legislature was dealing with the aftermath of Operation Lost Trust and the resulting ethics legislation. Conversely, the 1993 Legislature is actively dealing with government reform and many health care issues. Senator Leatherman's Joint Legislative Health Care Planning and Oversight Committee is proposing a broad based health systems reform. Paramedical groups such as the optometrists are trying to legislate themselves into the practice of medicine and we strongly oppose their position. Your board, through our staff, is kept informed on all legislation that affects us and you can be reassured that we are well respected at the State House. We have been influential in supporting legislation that raises revenue through higher taxes on tobacco and alcohol. The board has taken a position in support of the AMA's Council on Ethical and Judicial Affairs on self-referral and staff is working to insure that bills currently introduced in the Legislature do not go beyond the AMA position.

The SCMA is blessed with an outstanding staff led by our nationally recognized Executive Vice President, Bill Mahon. They have been exceedingly helpful to our membership in educating all of us about the CLIA and OSHA regulations which have been a thorn in the side of all practitioners.

We have just completed our third year of a graduated dues increase and find ourselves in a positive financial position. This position has allowed us to start the Physicians Care Network with no additional charge to our membership. Hopefully the PCN will succeed and attract even more members which in turn will raise revenues.

Finally, I would like to thank the Second District for electing me to the Board of Trustees, and the board for selecting me chairman. It has been a thoroughly rewarding experience working with the talented members of the board and the dedicated staff of the SCMA. We must continue to speak with an informed and unified voice. No organization in this state has as much influence as the physicians of this state and I urge all of you to participate in the SCMA.

S. Nelson Weston, MD
Chairman of the Board

THE SECRETARY

The good news is the same as the bad news: our membership percentages have stayed the same. We need to continue to motivate ourselves to get out and talk to our fellow physicians who are not members of SCMA. There is probably no time like this time where we need to be united in one organization to speak as one voice to the public, to our patients, and to the politicians.

I have continued to call all the newly-licensed physicians, and, as last year, this is a well-received program. I hope it has helped somewhat in our membership figures. At least it sends the signal that the medical association is interested in the new physicians. The Young Physicians Section itself has continued and been active. They recently had a dinner reception which was well-attended, and I believe this section is becoming a growing and vital part of our entire organization.

The current uncertainty under which we all live has, unfortunately, apparently discouraged some physicians from joining or renewing their membership in the medical association. Partly it is fear of loss of income, partly it is discouragement and the attitude "whatever we do isn't going to make any difference." However, I believe that is entirely the wrong attitude. I believe this is a time of opportunity and not of despair. I believe our new Physicians Care Network (PCN) is an important step forward to put us into the managed health care arena as major players, a force to be reckoned with and a negotiating unit that has stature. I also believe that the PCN will increase our patient contacts. Therefore, I am convinced that this is the time as no other time to join the medical association – to get involved, to be unified, to have a voice and to press forward into the future. It's not a time of despair and fear; it should be a time of hope and challenge and excitement. However, none of us are so naive as to believe that change is not without threat. It is a time of change. It is a time of threat, but rather than giving up I think we should join to the oar and pull together, and the South Carolina Medical Association is the place where that should be done.

Thank you.

Stephen A. Imbeau, MD
Secretary

THE TREASURER

As I complete my first year as Treasurer of the South Carolina Medical Association, I would like to present a short report about the SCMA's financial condition. A more comprehensive report will be presented to the 1993 House of Delegates in Charleston.

For the year ended June 30, 1992, the SCMA had net revenues over expenses including depreciation of $103,333. However, if you exclude depreciation expense of $37,953 the SCMA had net operating revenues over expenses of $141,286. The SCMA had a Fund Balance of $1,500,083 as of June 30, 1992.

The SCMA's current financial condition for the eight months ended January 1993 projects a positive financial position. At the end of January, the SCMA had revenue over expenses of $162,541. We currently project that the SCMA will have an excess of revenue over expenses for this fiscal year.

The investment policies of the SCMA and its affiliates have continued in a similar manner, as in past years, with diversified investments in federal treasury and agency notes and money market funds.

It is the SCMA's policy to maintain total reserves equal to one year's operating budget and any excess should be allocated to cover future operational deficits. Therefore, the permanent and operating reserves will remain constant for the year ending June 30, 1993.

The House of Delegates in 1988 approved a dues increase of $100 to be implemented fractionally over a period of three years. We have a history of operating on a sound financial basis and, with this increase in receipts, we shall continue to do so.

For the fiscal year ending June 1994, we project a small surplus of revenue over expenses.

I thank the membership for the privilege of serving as your treasurer for the past year.

Benjamin E. Nicholson, MD
Treasurer

THE SPEAKER OF THE HOUSE

The 145th Annual Meeting and Scientific Assembly of the SCMA will be held April 22-25 in the Omni Hotel at Charleston Place. This is the seventh year our event will be held in this exciting location. The schedules for the clinical sessions, social gatherings and the House of Delegates have been carefully rearranged to allow you to participate in all activities to the fullest within a shortened overall format. This should add to the excitement and enthusiasm that surrounds our meeting each year. Dr. Gerard Jebaily and his CME Committee have arranged an outstanding array of speakers to update us in various aspects of medicine. We will have plenary sessions on "Infectious Diseases" and "What's New in Anaphylaxis, Surgery, Cardiology, Pediatrics, Urology, Anesthesiology, Obstetrics, Psychiatry, Neurology and Ophthalmology." Our other scientific sessions and those of our specialty societies will include topics such as rational use of medications in the elderly and insights into refractive eczema. At least 10 of our state's specialty societies will hold their meetings in conjunction with ours. Approximately 14 CME credit hours can be obtained beginning Thursday afternoon. There will be a special risk management program on "Communicating, the Solution to Medical Malpractice" on Friday afternoon.

Special guests for the week will include Dr. James Todd, Executive Vice President of the American Medical Association, and Dr. Maxton Mauney, Jr., President of the North Carolina Medical Society. We are extremely proud to have two of our own SCMA members who hold distinguished positions in organized medicine in America with us for the meeting. Dr. Tommy Rowland is President of the Southern Medical Association and a past president of the SCMA. Dr. Randy Smoak is a member of the Board of Trustees of the AMA and also a past president of the SCMA. Dr. Walt Roberts, another SCMA past president and current chairman of our delegation to the AMA, will offer for the presidency of the Organization of State Medical Association Presidents in June of 1993.

The SOCPAC Luncheon will feature South Carolina's new Congressmen, Representatives James Clyburn and Robert Inglis. On Saturday evening we will honor Dr. Ed Catalano, our president-elect, at the Inaugural Banquet and after dinner be entertained by the group "Carolina Alive."

Your Board of Trustees, officers and staff have worked this year to implement those resolutions and recommendations adopted by the House of Delegates at its 1992 meeting. You voted to shorten the length of the annual meeting as a three-year trial, and this year's session is organized in that format. You rescinded support of HR 4244 and endorsed progressive health care reforms that embrace improved universal access and equitable cost control for all patients. The delegates voted to encourage local county medical societies to sponsor the use of standardized pre-season high school sports evaluation forms and injury report forms by their members. You supported abstinence and fidelity as well as other sound methods of preventing sexually acquired AIDS and other STDs and that these be emphasized in educational efforts aimed at young people. You took a firm stand on the prohibition of beer ads on television and promoted the value of physical fitness.

As you peruse these house actions from last year, and listen to various staff and officer reports including that of our executive vice president, you will undoubtedly see that the directions you set for our association have resulted in numerous successes this year. Our organization has a very positive influence on our state Legislature in matters regarding the well-being of our patients and practices. We have already created a strong voice in the health care reform debate. Your president, president-elect and board chairman, along with key staff, have accessibility and credibility with our Congressional Delegation in Washington. Their input to key Congressmen and Senators should help in our plight with CLIA, OSHA and Medicare.

Your full-time SCMA staff continues to work to assure that the House of Delegates functions as a completely representative body for our membership. We have a continuing increase in interest by our specialty society delegates and this is particularly pleasing. As we celebrate our progress we again owe a debt of gratitude to our hardworking Executive Vice President, Bill Mahon, and his staff who serve us so well. These men and women are guarding our interests and those of our patients. When you see them at this meeting, do not forget to thank them for all they do for us.

Finally, I want to tell you how grateful I am that you have allowed me to serve as your speaker for the past seven years. Our delegates from county societies, specialty groups, students, residents and academia are very capable and have functioned in a highly democratic manner that has had far-reaching impact on medical policy and practice in South Carolina. As we enter this critical and possibly turbulent period of health care change, we cannot permit disunity in our state's House of Medicine. The SCMA House of Delegates is the key to preventing fragmentation of interests. I encourage each of us to continue to bring our individual and collective viewpoints forward as resolutions for debate in reference committees and on the house floor. Let us make our decisions based on sound analysis of the issues and consequences. We can then provide strong support for our officers, trustees, AMA delegates and staff as they carry forward our commitments. I am proud to be a member of the SCMA and South Carolina's House of Medicine. Thank you again for letting me serve.

O. Marion Burton, MD
Speaker of the House

TRUSTEE, SECOND MEDICAL DISTRICT

Each year that I have served on the Board of Trustees of the SCMA, the problems and potential change which face organized medicine seem greater than the year before. At this point, however, they all seem but a prelude to the major changes we face in the near future. Because of the continued lack of affordable medical insurance for millions of Americans, lack of access to preventive care and adequate follow-up care for many, and ever rising costs, few would disagree that the system needs changing.

It is unclear what the new administration will recommend, but it most certainly will not be "business as usual." The best guess at present is a type of preferred provider system and some form of managed care/managed competition. The insurance companies as well as the hospitals are trying to position themselves to accommodate and take advantage of these new governmental requirements and thereby become the major players in controlling the practice of medicine.

The SCMA has initiated its own program, the Physicians Care Network (PCN), which will be managed by our organization with the help of the experienced and qualified consulting firm of ACMG. I can think of no group better qualified to oversee and, if necessary, regulate the practice of medicine than the physicians themselves. The initial key to the success of the Physicians Care Network will be the support and membership of the physicians – the more members we have, the more readily the PCN can be marketed to the consumer.

I would urge each of you to join and give the Physicians Care Network your full support.

Remember, the only requirement to join the PCN is membership in the SCMA, so add this to the long list of very good reasons to be a member of the SCMA and part of organized medicine. If you have any questions regarding the Physicians Care Network, please contact the staff of the SCMA.

Another problem facing medicine today is the continual and increasing attempts of paraprofessionals to encroach on the practice of medicine. Rather than continue in their role to assist physicians, they are trying more and more, through the legislative process, to take over the role of physicians. If they are successful, I do not feel this would in any way add to the quality of medical care or reduce costs...but rather the opposite.

I agree there are areas in our state which lack access to physicians and paraprofessionals can serve a useful purpose. However, when they are used inappropriately by a physician, i.e., not adding quality of patient care but only increasing the financial gain to the physicians, their argument for autonomous practice and direct access is aided and abetted by the physicians themselves. The SCMA works diligently to block these attempts in the Legislature. Please help support our efforts.

The need to have continued access to the Legislature and enough influence to have our problems and concerns given fair consideration is more important than ever. SOCPAC does an excellent job on helping to create a climate which affords us the opportunity to do this. Please continue your support and, if possible, increase your contribution. Also encourage your colleagues who are not members to join.

I would like to remind you of another responsibility we all have and that is the election of members to the State Board of Medical Examiners as well as the Disciplinary Commission of the State Board. This board is charged with very serious responsibilities and its decisions can have very grave consequences for you and your colleagues. The terms for service on the board and commission are limited. When someone from your district is proposed for either, please find out all you can about the candidate and make sure it is someone you trust and who has the capability to judge the moral character, ethical standards and medical competency of your colleagues or yourself in a fair, honest and unbiased manner.

Again, I would like to assure you that the physician leadership of the SCMA continues to be of the highest quality. We all owe them a vote of thanks for their dedicated and hard work.

Each year I become more impressed with the competence and high calibre of the personnel who make up the staff of the SCMA. They do a truly outstanding job. Remember, they work for you and are more than willing to assist you in any way they can.

Thank you for allowing me to serve you in the past and I look forward to continuing in the future.

Bryan L. Walker, MD
Trustee, Second Medical District

TRUSTEE, FOURTH MEDICAL DISTRICT (METROPOLITAN)

It has been my distinct privilege and honor to serve as the trustee from the Greenville area for the SCMA year 1992-93. The SCMA continues to function with its top priority of representing the physicians in private practice in the state of South Carolina.

The future of health care is being written as each day passes. It is of primary importance that some organized voice speak for the medical profession, and in my opinion the SCMA and the AMA continue to be that voice.

The SCMA continues to provide education to its members who are continuing their medical education. Other member benefits include the South Carolina Members' Insurance Trust, informing physicians of various legislative items, and working to keep its members up to date on health care proposals and developments. Meetings have been held between the SCMA board and the South Carolina Hospital Association as well as medical review companies, in order to keep them "doctor friendly."

Just before preparation of this report, a called meeting of the SCMA membership was held wherein the Physicians Care Network was presented. This is a bold new step for the SCMA and should position its members to be active players in the managed competition era for South Carolina.

On a local level, the Greenville County Medical Society held a media workshop that was well-attended. Our January meeting was honored by the presence of AMA Representative, Dr. Lonnie Bristow.

James B. Page, MD
Trustee, Fourth Medical District
(Metropolitan)

TRUSTEE, FIFTH MEDICAL DISTRICT

It has been a pleasure and privilege to serve as the trustee from the Fifth Medical District of the South Carolina Medical Association for the past year and to fill out the unexpired term of my predecessor, Dr. Roger Gaddy. During this first year on the board, I have attended all but the first two board meetings of my term and have tried to learn the ropes of being a trustee, both by being an acute listener and by speaking up when I felt that I had something to add. During January and February I had the opportunity to address medical societies in York, Lancaster, and Fairfield counties and hope that during March, I will be able to address the medical societies in Chester and Kershaw counties. I am a strong believer in physician participation in the political process and have encouraged my fellow society members to be involved with both their local, state, and federal representatives. We can have an impact on health care legislation, but only if we act early and decisively in concert with our elected representatives.

Public opinion polls and politicians have assured members of the medical care professions that 1993 will be a year for the passage of landmark and comprehensive health care legislation. Although no one knows the form that the legislation may take, it is clear that at this early stage of the game a number of basic tenets have been laid by the Clinton administration. Managed care and managed competition seem to be an integral part of any proposal. It seems fairly certain that some combination of private and public payors will prevail. Fee-for-service medicine, solo practice, and rural medicine all appear to be endangered species at this point. At least one proposal in the Clinton administration calls for radiologists, anesthesiologists, and pathologists to surrender their professional identity and independence and become employees of their hospitals. Nearly 37 million individuals lack health care insurance and a fairly rapid provision of insurance coverage to them will create extreme stress and strain within the system. In the typical free market economy, an increased demand for services results in escalation of prices and the introduction of new and innovative ways of providing services and products at a lower cost. However, in any of the proposals now being entertained by Washington, there is no way that a free market system would operate. Moreover, the increased demand for medical care services induced by the enfranchisement of 37 million previously uninsured individuals will likely have a significant negative effect on health care services and providers. The final unknown in the health care equation is the question of who will pay for the new system. The Clinton administration is very quiet on this last issue because it means another round of new taxes and tax increases to pay for the proposed "new" health care system. It seems likely that increased "sin" taxes, a "sick" tax on health care providers and hospitals plus a national sales tax (or VAT tax) may be key elements in the Clinton health care financing tax proposal.

On the local level, Senator Leatherman's bill and numerous other pieces of health care legislation will be introduced and debated in the South Carolina Legislature during this session. It is essential that all members remain vigilant, informed, and supportive of their local and state medical associations so that we may have the maximum impact on legislation vital to us and our patients' interests.

I appreciate the support of my fellow physicians from Lancaster, York, Fairfield, Chester, and Kershaw counties and would look forward to the honor of being reelected to represent them on the Board of Trustees for the coming year.

R. Duren Johnson, MD
Trustee, Fifth Medical District

TRUSTEE, EIGHTH MEDICAL DISTRICT

The medical community continues to be a major target for legislative issues and governmental budget cuts. Detrimental changes are being forced upon us. As physicians, the only way we can have a voice in determining what is best for our patients and our practices is through an effective group representing our interests. The larger the group, the more influence it can have.

In a comparative study of the number of physicians who participate in the SCMA and those who are eligible, Allendale County ranks first with 83.3 percent, Barnwell County ranks 18th with 57.1 percent, Hampton County ranks 20th with 55.6 percent, Bamberg Country ranks 27th with 50 percent, and Orangeburg/Calhoun Counties rank 29th with 49.5 percent. This is not good enough. If you are not a member, join now. If you are a member, contact a friend who is not; persuade him or her to join.

SUPPORT THE SCMA. IT WORKS FOR YOU.

Dallas W. Lovelace, III, MD
Trustee, Eighth Medical District

Call Collect 706-724-7506

COMMITTEE REPORTS

CONTINUING MEDICAL EDUCATION COMMITTEE

The SCMA CME Committee has continued its accreditation activities over the past year, reviewing and adopting the new ACCME Standards for Commercial Support, conducting reaccreditation visits, and accrediting new programs. We are pleased that, since our last report, Baptist Medical Center, Lexington Medical Center and Crafts Farrow State Hospital, all in Columbia, have received provisional accreditation for a two-year period. This brings the total of SCMA accredited organizations/institutions in South Carolina to 15.

For the first time, the SCMA, in cooperation with Spartanburg Regional Medical Center, conducted a CME workshop for accredited providers and others who are presently seeking to become accredited. This workshop was well attended and the response of attendees was rewarding. We hope to repeat such workshops in other areas of the state. One of the suggestions arising from the workshop was that we publish a CME Newsletter, and our Staff Coordinator is presently designing a quarterly publication targeted specifically toward CME providers and those preparing applications for accreditation.

Our other major activities, of course, included planning the 1993 Scientific Assembly entitled "Together: Advancing Health Care for South Carolinians." Despite the shortened Annual Meeting, we were able to accommodate most of the requests for program topics and specialty society sessions.

The chairman would like to thank all the committee members for their hard work, not only in preparing the program but in assisting with accreditation and reaccreditation surveys and participating in the Spartanburg workshop.

Gerard C. Jebaily, MD
Chairman

THE MATERNAL, INFANT AND CHILD HEALTH COMMITTEE

Our committee continues to provide input to DHEC, the Health and Human Services Finance Commission, the Maternal, Infant and Child Health Council in the Governor's Office and the SCMA Board of Trustees on issues pertaining to maternal, infant and child health.

The Governor's Maternal, Infant and Child Health Council has requested that the SCMA become the lead agency on several issues pertaining to the substance-abusing pregnant woman. As a result, we have established a subcommittee to develop better methods of identifying these women when they come for prenatal care. We have also written the Governor's office and urged that there be a statewide interpretation of the laws pertaining to substance abuse and pregnancy, so that the solicitors' decisions do not vary as greatly as they have in the past. The committee also adopted the position that there should not be routine meconium and urine screening of newborns to identify substance abuse by the mother; however, physicians may use either type of screening as judged medically indicated.

Another issue of discussion and study for our committee has been the regionalization of neonatal care. Specifically, the percentage of Very Low Birth Weight (VLBW) babies born in Level III hospitals in South Carolina is below the national goal and DHEC has convened a special committee to review the reasons for this. The SCMA and SC Hospital Association jointly mailed a letter to Level I and II hospitals requesting their review of all their VLBW babies in order to ascertain the reasons that the baby was born at this hospital instead of at a Level III hospital. This study is being conducted at the present time and will hopefully become part of ongoing hospital review. Our committee will receive periodic summary reports from the hospitals. We have also provided advice regarding the transfer of potentially nonviable or extremely LBW infants, addressing the question of at what point should in-utero transfer be initiated by referring physicians.

We have assisted the Health and Human Services Finance Commission in implementing the new, 1993 neonatal CPT codes by calling the American Medical Association and obtaining their clarification of the meaning of the ambiguous instructions in the CPT codebook.

All physicians should be aware that there are special federal grant funds in our state to reimburse breast and cancer screening for indigent women with no health insurance. Physicians must sign up for this program if they wish to provide these services in their office and receive reimbursement through this program. Call 1-800-277-4852 or 734-3343 for information.

Finally, we continued to review all maternal deaths in the state.

Ralph F. Principe, MD
Dilip M. Purohit, MD
Co-Chairmen

THE MEDIATION COMMITTEE

The Mediation Committee of the South Carolina Medical Association again saw an increase in activity by local medical society grievance committees. Coupled with relatively fewer complaints than in previous years, the committee did not meet on a state-wide basis in 1992-93.

Records show 22 complaints were received by SCMA between May, 1992 and March, 1993. Of this number, 12 were referred to the appropriate local medical society where the complaints were handled to conclusion. The remainder of the complaints, mostly concerning access to medical records or minor billing disputes, were handled by SCMA staff.

I wish to thank the committee members and SCMA staff for their support this year.

Albert G. LeRoy, Jr., MD
Chairman

THE MEDICAL ASPECTS OF SPORTS COMMITTEE

The Medical Aspects of Sports Committee met quarterly in 1992. Throughout the year many issues were addressed.

The committee continued to support the PLAY Coalition (Physical Lifetime Activity for Youth) and the Healthy People 2000 initiative.

In addition, the committee continued to support athletic trainers and Regulations 61-96, which serve to identify the nature and scope of athletic training.

The committee has continued to strive for safety for all athletes at all ages. Throughout the year concerns have been expressed in regards to Preparticipation Health Assessments for athletes, especially those at the high school level. The committee has taken upon itself to try to standardize Pre-participation Health Assessment Forms and Injury Communication Forms. This is an ongoing project, and a pilot study on forms in five areas of the state is to begin soon.

The Annual Sports Medicine Seminar was held on May 1, 1992 in conjunction with the Annual Meeting of the SCMA. The seminar dealt with the topic "Healthy People 2000 – The Physician's Role." The speakers for the program were Michael Cox, PhD; Fran Wheeler, PhD; Susan Provence; Rick Reed, MD; and Nicholas Dinubile, MD. The program was well received by those in attendance.

Tentative plans are being pursued to have a joint meeting with the North Carolina Committee on the Medical Aspects of Sports.

This year's 1993 Annual Meeting Program is entitled "Sports Medicine – Injury Prevention." The meeting has been planned by Drs. Charles Kaelin and Frank Phillips. Multiple topics have been chosen with a broad base of speakers addressing the various topics.

The role and purpose of this committee has been and continues to be to collect and develop pertinent information regarding the prevention and treatment of athletic injuries in South Carolina and to disseminate this information to those responsible for administering athletic programs in the state.

Richard W. Ward, MD
Chairman

THE MEDICAL ETHICS COMMITTEE

The Medical Ethics Committee of the South Carolina Medical Association continues to thrive, meeting on a monthly basis at SCMA Headquarters in Columbia.

Since May, 1992, the committee has worked on a lengthy discussion of whether health care is a "right," and if it is a "right" of each American citizen, what the parameters of the exercise of this "right" may be. Implicit in this discussion was much analysis of the physician's duties to society, and of the interplay between "rights" and "duties." The committee ended its discussion of this matter by sending a statement to the SCMA Board of Trustees for consideration at its September, 1992 meeting. The statement sent to the board contained several suggestions regarding what ethical issues should be addressed in any system of health care reform. The board received the statement as information.

The committee also began an in depth analysis of the ethical implications of do-not-resuscitate orders. The overall goal of the committee is to perhaps develop a universal protocol for entering these orders that could be adopted by all health care facilities in the state.

In early February, 1993, the committee held its Third Annual Winter Retreat at Hilton Head Island. The topic for the retreat was The Beginning and End of Life. Speakers, including committee members, SCMA staff, and invited guests delivered lectures on the theological, biological, neurological, philosophical, psychological, psychobioneurological, and legal views on the beginning and end of life. This well-attended meeting provided attendees with three full days of serious, thought provoking discussion about cutting edge issues in biomedical ethics.

The PhD consultants, Douglas MacDonald, Stuart Sprague, Albert Keller, and Nora Bell continue to provide invaluable input and support into our committee meetings.

In the future, the committee will continue its discussion of do-not-resuscitate orders and will continue its goal to educate SCMA members and the public about the role of biomedical ethics in the provision of health care.

Charles R. Duncan, MD
Chairman

THE MEMORIAL COMMITTEE

As we go through our daily routines, it is important that we stop and reflect upon our colleagues and associates who have now passed on from their duties.

We, the members of the South Carolina Medical Association, now extend our sympathy to those loved ones and their patients whose lives are now empty because of their loss; and we hold these persons to be examples and inspirations for those of us who remain.

We have all been called upon to dedicate our lives through the order of medicine. It seems appropriate, at this point, that we take time to remember those who are no longer present to serve humanity.

After the following names have been read, we will stand for a moment of silence, out of respect for the following:

James F. Adams, MD, Columbia; Perry Bates, MD, Greenville; Harold J. Bowen, MD, Beaufort; Iverson O. Brownell, MD, Greenville; William C. Cantey, MD, Columbia; John Gaston, Jr., MD, Chester; Samuel A. Harris, MD, Myrtle Beach; Frank Rouse Huff, MD, St. Matthews; Joseph W. Lemire, MD, Greenville; Ethel M. Madden, MD, Columbia; Claude L. Murray, MD, Orangeburg; Richard G. Price, Jr., MD, Beaufort; Robert N. B. Reiner, MD, Myrtle Beach; Benjamin C. Riggs, MD, Charleston; L. M. Rosemond, MD, Gaffney; Harry Schurman, MD, Myrtle Beach; John R. Smith, MD, Walterboro; Hirsch L. Spiegelman, MD, Hilton Head Island; John R. Timmons, MD, Columbia; and Ross M. Williamson, MD, Myrtle Beach.

Samuel R. Stone, MD
Chairman

THE PUBLIC RELATIONS AND COMMUNICATIONS COMMITTEE

The goal of the Public Relations and Communications Committee for the year has been to increase communications with the media, the general public and SCMA members. "Communications" was added to the name of the committee and the membership was expanded to include representatives from each part of the state. With the attention that health care reform has been getting, the committee has focused on getting the physicians' message regarding health care costs and possible solutions out to the public. During the 1992 SCMA Annual Meeting, a news conference was held to discuss the causes of rising health care costs. Physicians have also given numerous media interviews throughout the state and several have appeared on talk shows to provide physician input on all aspects of health care reform. SCMA staff also worked with the AMA on their media tour of Columbia during which they promoted their Health Access America plan for reform. The Media Response Program was also begun this year. SCMA members were encouraged to monitor their local papers for articles that fail to report adequately the physicians' side of an important issue. Articles can be sent to the SCMA Director of Communications and a response will be sent to the newspaper.

Since starting the program, many topics have been addressed including health care reform and costs, opposition to beer advertisements, and opposition to increased scope of practice for optometrists.

The committee is also developing a Communications Network made up of approximately 30 physicians representing all areas of the state. The purpose of the network is to provide speakers to civic organizations and the local media giving the physicians' perspective on health care issues. This group will receive speaker training and information on current issues from the SCMA. Several speaking engagements with civic groups, businessmen, and Winthrop University have already been set up this year.

Other activities during the year have included promoting the Commun-I-Care project (a program to serve the health needs of the indigent) to SCMA members; developing an organ donation poster with the S.C. Department of Highways and Transportation and the S.C. Organ Procurement Agency; encouraging county medical societies to develop standards for their members regarding treating indigent patients; and mailing a survey to physicians to determine how the SCMA can better serve its members.

The committee looks forward to continuing its efforts to educate the media and the public on important issues and to strengthen the image of physicians in the community.

J. Chris Hawk, III, MD
Chairman

THE OCCUPATIONAL MEDICINE COMMITTEE

The SCMA Committee on Occupational Medicine held quarterly meetings during 1992. Many hours were contributed by all members of the committee to updating the many new codes added to the 1992 CPT Book.

Physicians' fees which seemed inappropriate to the Medical Services Division of the Workers' Compensation Commission were reviewed at each meeting, and recommendations were made to the commission on an individual basis.

During 1992, the committee established fees for the new E/M Codes and continued to work on all other new codes. There has been much discussion on using a relative value scale to standardize the fee schedule. This discussion continues in 1993.

The South Carolina Workers' Compensation Medical Seminar was transferred from the SCMA to the SCWCC.

The committee is reviewing the guidelines for the Physical Medicine and Office Visit Modalities. Guidelines were set for notifying physicians and insurance companies of changes made to the fee schedule.

The staff at the SCMA is continuing to collect a list of physicians willing to treat Workers' Compensation patients.

The SCWCC held their 14th annual Workers' Compensation Medical Seminar, March 19-21, 1993, at the Radisson Kingston Plantation, Myrtle Beach, South Carolina. I hope all physicians attended this important meeting.

The Occupational Medicine Committee and the South Carolina Workers' Compensation Commission are always available to participate in a panel discussion during an SCMA Annual Meeting or to speak at county medical society meetings.

We are currently addressing the fee schedule for all CPT Codes added in 1992 and anticipate having this updated by late spring or early summer 1993. We are also adding two new members to the Occupational Medicine Committee, one ophthalmologist and one family practitioner.

In summary, 1992 was a very busy year for the committee in fulfilling its role as liaison between the South Carolina Medical Association and the South Carolina Workers' Compensation Commission, as well as a resource group to the commission as it attempts to fairly administer the Workers' Compensation Law of the state of South Carolina.

I would like to thank all committee members, SCMA staff and SCWCC staff for their hard work this past year.

Marion F. McFarland, III, MD
Chairman

THE PHYSICIANS' ADVOCACY AND ASSISTANCE COMMITTEE

The PAAC has had an active year. We presently have 47 physicians under contract; this represents a 1.5 percent increase over 1991.

We are continuing to develop a close working relationship with the State Board of Medical Examiners. At present, any consent order which is handed down having to do with impairment includes a mandatory contract with the PAAC. We continue active advocacy before the board for those with contracts.

Over the last year, representatives of our committee have worked closely with city and county groups to educate medical students and practicing physicians on recognizing professional impairment. Presently, we are assisting hospital staffs in developing their own professional impairment policy and procedures. We have also developed a standardized procedure for monitoring physicians having a contract with the PAAC.

The regional treatment teams continue to be very active in working with their peers as advocates. There are active Caduceus physician groups in Aiken, Charleston, Columbia, Greenville, Marion, and Spartanburg.

Our budget from the JUA has been approved by the Board of Trustees. The committee is grateful for their continuing support. I wish to thank the Board of Trustees, committee members, SCMA staff, and the JUA for their support and work this past year.

James R. Wells, MD
Chairman

THE PRIMARY CARE/MEDICAID AND INDIGENT CARE COMMITTEE

In South Carolina, as throughout the country, state governments find it increasingly difficult to adequately fund their Medicaid programs. The SCMA continues to encourage the state to increase the cigarette tax and use this extra money for Medicaid. A tax on gross revenues of providers has been imposed in other states and there is occasional talk of an increased physician licensure fee in our state with these funds directed to Medicaid. The SCMA continues to voice our opposition to these provider taxes.

Last year Medicaid reduced reimbursement for certain specialties. As a result of the concern expressed by physicians regarding the equity of these reductions, the Health and Human Services Finance Commission has recently requested each specialty society to comment on the RBRVS methodology. Although the Finance Commission does not currently have sufficient funds to reimburse all physicians at Medicare rates, it is considering use of the RBRVS in order to allocate the existing funds among physicians.

At the AMA Annual Meeting last June, SC delegates submitted a resolution which was approved by the AMA House of Delegates regarding Medicaid requirements for "third party liability."

Perhaps with President Clinton's commitment to allowing states more flexibility in administering Medicaid, our request will be approved, and HCFA will allow the state Medicaid program to bill other possible insurance companies, instead of requiring this administrative burden of the physician.

Our committee welcomes your input. Please inform us of any issues you might have regarding Medicaid.

Roger Gaddy, MD
Chairman

THE SCMA/AHA-SC AFFILIATE JOINT COMMITTEE ON CARDIAC REHABILITATION

At the present time there are 26 certiified rehabilitation programs in the state. They are in locations throughout the state as follows:

Anderson Memorial/Anderson
Marlboro Park Hospital/Bennettsville
Kershaw County Memorial Hospital/Camden
Trident Regional Medical Center/Charleston
MUSC/The Citadel/Charleston
Roper Hospital/Charleston
Chesterfield General Hospital/Cheraw
Providence Hospital/Columbia
Richland Memorial Hospital/Columbia
The R. Cathcart Smith Cardiac Rehabilitation Program/Conway
St. Eugene Community Hospital/Dillon
Bruce Hospital/Florence
McLeod Regional Medical Center/Florence
Georgetown Memorial Hospital/Georgetown
Greenville Memorial Medical Center/Greenville
St. Francis Hospital/Greenville
Self Memorial Hospital/Greenwood
Hilton Head Hospital/Hilton Head
The John Morrison White Program/Lancaster
Lexington Medical Center/West Columbia
Loris Hospital/Loris
Marion Memorial Hospital/Marion
Mullins Hospital/Mullins
Grand Strand General Hospital/Myrtle Beach
The Regional Medical Center/Orangeburg
Spartanburg Regional Medical Center/Spartanburg

As you will note, two new programs were certified last year. These are at the Chesterfield General Hospital and Hilton Head Hospital.

The statewide Cardiopulmonary Association is affiliated with the National Cardiac Rehabilitation Association and meets regularly. The South Carolina Cardiopulmonary Association receives staff support from the SCMA.

I would like to thank the committee members and the SCMA/AHA-SC Affiliate staffs for their invaluable help this past year.

Christie B. Hopkins, MD
Chairman

THE SCMA/JUA PHYSICIANS' RISK MANAGEMENT COMMITTEE

The Physicians' Risk Management Committee has continued to be quite active. We have worked very closely with the Joint Underwriting Association (JUA) and the Patients' Compensation Fund (PCF) and, as announced earlier, there will be reduction in premium costs again this year. We are most fortunate to have sound financial management by both boards and the continued fine risk management practices of South Carolina physicians.

The program for new physicians continues to be quite popular. Two programs were conducted in 1992 and a total of 132 new physicians attended. The next program is scheduled for Thursday, May 27, 1993 at the SCMA building in Columbia. We expect a good attendance and will plan a second meeting in September or October if needed.

Two physicians have joined our committee in the past year – March Seabrook and Alec Ramsay. They bring added expertise and new ideas and approaches which we welcome and appreciate.

John Hunt has been quite active in providing several programs for county societies and other groups. We are hoping to expand on these with the recent additions to the committee.

Our emphasis this year will be renewal of the commitment to effective risk management efforts. We cannot relax, but must continue a positive attitude and approach to medical liability in our state.

We appreciate so much, as always, the support from Cal Stewart and Joy Drennen. The real secret to the success of our program is the cooperation and the support of South Carolina physicians.

Euta M. Colvin, MD
Chairman

THE SCMA/SCHA VICE PRESIDENT OF MEDICAL AFFAIRS COMMITTEE

Our committee, which is jointly sponsored by the South Carolina Medical Association and the South Carolina Hospital Association, has continued to meet quarterly.

We have also sponsored a special session for elected medical officers on the day preceding the TAP (Trustees, Administrators and Physicians) meeting last September in Hilton Head. This session was designed to familiarize medical staff officers with the South Carolina hospital data system, which is maintained by the Office of Cooperative Health Statistics, Budget and Control Board. Hospital-specific data, including physician-specific data displayed in peer groups, were shared with those who were present from each hospital. Discussions were held regarding the possible use and meaning of these data. We also invited Robert Keller, MD, of the Maine Medical Assessment Project, to speak on Maine's statewide physician analysis of practice patterns. Dr. Keller's major conclusion was that sharing information with a physician on how his/her practice varies from a specialty peer group has been a most effective experience in Maine.

After the statewide TAP meeting, the Office of Cooperative Health Statistics staff worked with us to conduct regional meetings with hospital personnel and physicians, similar to the TAP meeting. Analysis of practice patterns will increasingly be performed by insurance companies, the government and others. Hospital medical staffs should learn to interpret and effectively utilize existing data, such as that provided, free of charge to hospitals, by the Office of Cooperative Health Statistics.

We are currently planning another educational session for elected medical staff officers to be held on Thursday, September 16, preceding the 1993 TAP meeting.

Our committee continues to be available for advice to hospital medical staffs/administrators/trustees who are considering the creation of a position of Vice President of Medical Affairs/Medical Director. We continue to assist the SCMA and SCHA on hospital issues such as PRO, continuous quality improvement, and other relevant topics. We encourage input from any hospital's medical staff.

Harold Hunter, MD
Chairman

OTHER REPORTS

THE EDITOR OF *THE JOURNAL*

The editorial board continues to adhere to the mission statement adopted in 1990:

> The mission of *The Journal* is to advance the art and science of medicine; to promote the ideals of the South Carolina Medical Association; to encourage scholarship and good will among South Carolina physicians; and to disseminate information specifically applicable to the health care of South Carolinians.

Encouraging scholarship by practicing physicians remains a primary goal. In this vein, it was gratifying to note that 14 manuscripts by physicians in private practice were considered for this year's Roe Foundation award.

We continue to encourage symposium issues. I am especially pleased with the January 1993 issue devoted to pioneer women physicians in South Carolina, edited by Dr. Curtis Worthington and Ms. Elizabeth Newsom of the Waring Historical Library. This year, we plan special issues devoted to psychiatry and rheumatology, and other special issues have been approved by our editorial board. We welcome suggestions for symposium issues, for it remains our desire to provide timely educational materials both for and by South Carolina physicians.

We also encourage suggestions for editorials, including guest editorials by SCMA members. By any measure, these are challenging times. Your thoughts are welcome here!

I continue to be deeply indebted to Joy Drennen, our managing editor, for carrying out the day-to-day functions of our editorial office single-handedly. These duties include not only monitoring the ebb and flow of manuscripts but also typesetting and soliciting advertising. I'm also indebted to Betty Newsom for the excellent cover illustrations and stories. Finally, I thank the SCMA membership and Board of Trustees for the privilege of serving you as Editor.

Charles S. Bryan, MD
Editor

THE HIV/HBV SAFETY NETWORK

On July 12, 1991, the Centers for Disease Control (CDC) published recommendations for preventing the transmission of HIV/HBV during exposure-prone invasive procedures (EPIPs). On October 28, 1991, the federal government passed a law requiring all State Public Health Officials to certify that by October 28, 1992, their state had instituted the CDC guidelines. The S.C. General Assembly passed the Health Care Professional Compliance Act on June 2, 1992, which gives DHEC the authority to ensure compliance with the CDC guidelines and appoint or approve an Expert Review Panel for health care workers (HCWs) in the state. In November of 1992, DHEC finalized the criteria for approval of Expert Review Panels.

The first meeting of the HIV/HBV Safety Network was held on January 14, 1992. However, in July 1991, the SCMA began developing the program in order to provide confidential HIV/HBV testing services, review and monitoring services for seropositive HCWs, and certification for HCWs in compliance with the CDC recommendations. Representatives from the S.C. Hospital Association, State Board of Medical Examiners, S.C. Dental Association, S.C. Board of Dentistry, S.C. Department of Health and Environmental Control (DHEC), and the State Board of Nursing were invited to comment on the proposal. A document was drafted describing the HIV/HBV Safety Network which was mailed to all licensed physicians and dentists in the state. Included in this mailing was a letter offering the program to the physicians and dentists as well as their office staff. The SCMA formally announced the program to the public with a news conference held on October 16, 1991.

Testing sites were set up in Greenville, Columbia and Charleston. Between February and April 1992, 66 HCWs were tested for HIV/HBV and certified to be in compliance with the CDC recommendations. Another 55 HCWs who did not perform EPIPs and did not require testing were also certified to be in compliance. The testing portion of the program has since been discontinued due to lack of participation, and the primary focus of the program has become providing expert review services.

A Policy Panel was also established to make decisions about the operation of the network. The Policy Panel has 14 members representing physicians, dentists, hospitals, nurses and podiatrists. Policy Panel members also serve on Expert Review Panels when necessary. The Expert Review Panels provide case review for HIV and/or HBV-infected HCWs. These panels make recommendations regarding practice modifications, supervision and monitoring, and other stipulations. The recommendations are then reviewed and approved by the full Policy Panel. The HCW who has undergone review is then sent a copy of the final recommendations for his/her signature indicating that he/she agrees to abide by the recommendations.

Expert Review Panels are comprised of approximately four to six practitioners including at least two Policy Panel members, the HCW's personal physician, an infectious disease specialist, a HCW familiar with the procedures performed by the infected HCW, and a public health official. One member of the panel may serve in more than one capacity.

An application was submitted to DHEC in January 1993 and on January 25, 1993, the HIV/HBV Safety Network received approval to operate as a statewide Expert Review Panel. Prior to approval, the Policy Panel had met five times and with consent of DHEC had performed two case reviews. The two infected HCWs have agreed to abide by the recommendations of the Expert Review Panels and their cases are being monitored.

A budget has been prepared by the Policy Panel and a formal request has been sent to DHEC to request funding for the program. At this time we have been told that a contract is being developed.

J. Chris Hawk, III, MD
Chairman

THE SCMA MEMBERS' INSURANCE TRUST

The SCMA Members' Insurance Trust (MIT) completed the last fiscal year with a deficit of $45,407. The total revenues collected for the year ending June 30, 1992 were $9,021,208, and claims paid plus expenses amounted to $9,066,615.

The MIT had an actuarial study conducted this year by Martin Segal and Company and it was the recommendation of the actuaries that we raise our premiums by 15 percent effective March 1, 1993. The MIT Board reviewed the recommendations of the actuaries and voted to implement their recommendations. The MIT remains fiscally sound with reserves for incurred but not reported claims of $1,825,000.

A financial audit of the MIT was conducted by Coopers & Lybrand and a copy of the audit is attached to the report in the Delegates Handbook for your review.

The MIT continues to offer the advantages of guaranteed acceptance into the plan if you are an SCMA member, coverage for your spouse should you predecease and a plan that is totally financed and operated by the SCMA.

My first year as Chairman of the Board was made much easier by the fine job of my predecessor William L. Eckstein, MD, to whom we offer our sincere appreciation for a job well done. Thank you to the board and staff for all their hard work this past year.

Daniel W. Brake, MD
Chairman of the Board

REPORT OF THE SOUTH CAROLINA INSTITUTE FOR MEDICAL EDUCATION AND RESEARCH (SCIMER)

The South Carolina Institute for Medical Education and Research will award 20 scholarship grants at the 1993 meeting. Fourteen will be awarded jointly with the South Carolina Medical Association Auxiliary to seven students from each of the two medical schools in South Carolina. Other scholarships to be awarded are the Stuckey Scholarship to a student from Bamberg

County; two scholarships contributed by a cardiology group from upstate counties; and the Conway Hospital Medical Staff Scholarship. Also this year, in lieu of the Leonard Douglas lecture, we will be awarding a scholarship in Dr. Douglas' memory. The final award will be presented to a medical student for a research project judged best of entries for student research. Each student at both South Carolina medical schools received a letter from SCIMER in January announcing the scholarship availability and the procedures to apply.

SCIMER would like to express appreciation for the financial support provided by those of you who paid an extra $25.00 on your dues billing this year.

Finally, I would like to express my sincere thanks to the members of the Board of Directors for contributing their time and efforts to this worthwhile activity.

Alexander Donald, MD
President

THE EXECUTIVE VICE PRESIDENT

It is my pleasure to report to the House of Delegates on the activities of the South Carolina Medical Association and its subsidiaries.

This past year I had the opportunity to accompany the president and other officers to a number of county medical society meetings. As in past years, the opportunity to meet with you and discuss your concerns and the activities of the SCMA was very beneficial to me and very enjoyable as well. I hope that those societies which we were able to visit found these visits informative. I have not had the opportunity to visit some county societies for a couple of years and I will make an effort to do so this coming year with the president.

The influence of the SCMA in the American Medical Association has grown to a level that has never been achieved by South Carolina before and rarely, if ever, by a state our size. Dr. Randy Smoak has been elected to the Board of Trustees of the AMA; Dr. Walt Roberts serves on the board of the Organization of State Medical Association Presidents; Barbara Whittaker serves on the AMA Legislative Advisory Committee; and I have been appointed to the American Association of Medical Society Executives Advisory Committee to James Todd MD, the AMA Executive Vice President.

Our legislative activities have been very intensive this past year, as we are dealing with a number of very important issues in the Legislature. We began this current legislative session with the introduction of a bill that would allow optometrists to prescribe drugs for therapeutic treatment, and at the time of this writing the bill is in the Senate. Senator Hugh Leatherman, as Chairman of the Health Care Planning and Oversight Committee, promulgated an 85-page Health Care Reform bill. To date we have been attending hearings and committee meetings on this bill twice a week. The bill contains a number of proposals including non-binding arbitration in medical malpractice cases, a ban on self-referral, insurance reforms and the establishment of practice parameters. The Physical Therapists bill that the House took a position on last year has been reintroduced and SCMA will work to defeat the bill. The report of the Legislative Committee will provide additional information on the bills we are currently following.

In addition to the Health Care Reform bill in Senator Leatherman's committee, there are three task forces which have been appointed by Governor Campbell to study various elements of the health care system and to recommend changes. One committee is dealing with health insurance reform, another with defensive medicine and scope of practice, and the third with defining basic health benefits. The SCMA is represented on all three committees.

SOCPAC participated in a number of House and Senate races this past election and supported winners in over 90 percent of those races. The new ethics law did not seem to pose a problem for the candidates or SOCPAC. The 1994 election will be for the House of Representatives and statewide offices including the Governor, and we will need your support to insure we have the resources to participate in all the races.

Health care costs are without question the number one issue being discussed in our state and nation. Last year I reported that there were between 20 and 30 bills dealing with health care reform, but this year there are very few due to a request by President Clinton that no bills be introduced until his recommendations are made. We anticipate that global budgets, tort reform and revisions to Medicare and Medicaid will be proposed. SCMA staff continues to follow these activities and we will keep you informed of the progress of the various proposals.

As most of you know, we are currently in the developmental phase of the Physicians Care Network. The network is intended to be an economic unit which, under the control of physicians, can compete in the health care delivery system of the future. The objectives of the PCN are to compete in the health care marketplace for market share, negotiate for the provision of health care services, provide high quality medical care, provide effective utilization review, share financial risks with purchasers and maintain fee-for-service and choice of physician. Your support is vital to the success of the network.

The financial affairs of the association and subsidiaries remain healthy, as pointed out in the Report of the Treasurer. Membership continues to grow in both the SCMA and the AMA in all categories of membership.

The support given the staff and myself this past year by the membership and the leadership of the SCMA is truly appreciated. Be assured that we will continue our best efforts to serve your interests.

William F. Mahon
Executive Vice President

THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Health Care Reform - Grassroots Process

The Governor's Health Services Task Force plan includes a grassroots process for citizen input. This process will be carried out by South Carolina Health Decisions, a group which has evolved from the South Carolina Health Care Ethics Task Force established by DHEC Commissioner Michael D. Jarrett in 1992 shortly before his death. Through a series of 100-150 community forums to be held over the next year, South Carolina Health Decisions will (1) assess community values with regard to a variety of health care choices, (2) develop the overall ethical framework within which health care reform must occur in South Carolina, and (3) identify the basic health service South Carolinians believe should be included in any health care package. The South Carolina Medical Association and a number of physicians have been active members of the Health Care Ethics Task Force and are leaders in its expanded organization, South Carolina Health Decisions.

Restructuring - Implications for Health

The restructuring proposal presently (March 1, 1993) being considered by the Legislature splits out of DHEC's environmental regulatory functions from the department's health services and health regulations. This has serious implications because (1) people are concerned about the effects of environmental exposures on health; the interaction between toxics in the environment and human health effects is a major, rapidly emerging issue in public health; (2) public health began by addressing environmental problems - diseases from bad water and vermin; now public health as an integrated system in which environmental specialists must evaluate toxic substances and adverse health effects; (3) this linkage is recognized at EPA - environmental permitting, regulation and action are all triggered by impacts on health; (4) DHEC's health and environmental professionals are now together when you need them in cases of potential human exposures; splitting the agency would mean health professionals would not be available as team members and cross-training expertise would be lost or an expensive group of doctors and scientists would have to be added to one of the proposed departments. Further reasons for maintaining the present DHEC structure relate to losses of productivity and actual costs of dismantling the present structure. Currently DHEC issues 99.8 percent of all environmental permits whether alone (89.3 percent) or in conjunction with another agency (10.5 percent). Adding the permitting authority, as proposed, from the three other permitting agencies and their staff (about 120 people) to DHEC is a more efficient solution to the wish for a single permitting agency, and it maintains the critical link between health and the environment, and health professionals and environmental scientists.

Home Health Services

Administering New Drugs - DHEC's Home Health Services (HHS) nurses are being asked to administer numerous new drugs to patients in their homes, which has created a concern because of the need to ensure that prescribed medications are being administered and monitored properly. This agency will establish pharmacy consultant services in each health district to confer with physicians about patients being followed by the HHS program.

Assessing Dietary Needs of Patients - DHEC will employ registered dieticians in each public health district to assess the needs and to develop care plans to help Home Health patients, especially those who are wounded or who have cancer, heart disease or other debilitating conditions, for whom nutrition plays an important role in their healing and rehabilitation process.

Enterstomal Therapists Being Trained - DHEC's public health districts are sending nursing staff to Emory University in Atlanta for training as enterstomal therapists. When trained, they will assess needs of HHS patients with wounds or ostomies, develop appropriate treatment plans, and train other staff to provide effective treatment to patients. So far, five districts have sent nurses for the training, which will continue until the agency has at least one enterstomal nurse per district.

Tuberculosis

TB Cases Decline; Emphasis on Directly Observed Therapy - For the third consecutive year, South Carolina is experiencing a decline in newly reported cases of tuberculosis. The emphasis on directly observed therapy by health department staff appears to have contributed greatly to this decline. During 1986-1991, DHEC attempted to improve patient adherence to anti-TB therapy by employing a combination of strategies, including incentives, directly observed therapy (DOT), court-ordered DOT, and a commitment for inpatient management. The cost to DHEC for each strategy has been $0.85 to $20 per treatment for patient incentives and enablers; $653 per patient for DOT and court-ordered DOT; $450 (including shelter, food, and dual treatment for TB and for alcohol-substance abuse) per patient in halfway houses; and approximately $10,700 per patient for those requiring commitment to a longterm care facility. Since 1985, most county health departments have routinely used incentives (food, clothing or books) and enablers (free transportation to clinics) to ensure completion of anti-TB therapy. From 1986 through 1991, by using a combination of these strategies, South Carolina increased the overall completion of anti-TB therapy from 93.9 percent to 96.5 percent and decreased the number of new TB cases from 593 in 1986 to 410 in 1991. Non-compliance with medications continues to be a tremendous problem.

Multi-Drug Resitant Tuberculosis - Currently, there are six known cases of multi-drug resistant tuberculosis in South Carolina, all caused primarily by patient non-compliance. None of the cases are HIV-positive; two came from large cities outside the state. A number of other multi-drug resistant cases have been cured in South Carolina, and we expect to cure the majority of the current cases.

High Performance Liquid Chromatography (HPLC) - DHEC's Bureau of Laboratories is using HPLC for the identification of mycobacteria, most importantly mycobacterium tuberculosis. HPLC identifies the organism two to three days after growth in culture. The traditional methods could require several weeks. HPLC technology combined with the rapid (radiometric, Bactec) system used at the state laboratory for isolation and antimicrobial susceptibility testing of mycobacteria contributed to the reduction of new tuberculosis cases over the last year by quickly providing cultural confirmation of clinical diagnosis. The Bureau of Laboratories was one of the first three state laboratories to pioneer and to adopt this testing protocol and now serves as a resource for training other states in the technique.

Physicians Appreciated - DHEC's Division of Tuberculosis Control has expressed appreciation to the state's physicians for excellent cooperation and referral to the agency's tuberculosis program. South Carolina is one of a few states where the state health department treats 95 percent of all cases, with the majority of these referred from private physicians.

Health Promotion

Project ASSIST - South Carolina is one of 17 states participating in the National Cancer Institute's Project ASSIST (American Stop Smoking Intervention Study). The goal of the seven-year project, now in its second year, is to reduce tobacco use in South Carolina by 43 percent by 1998. Tobacco prevention and control programs and policies are being promoted in worksites, schools, health care settings and other community organizations. Blue-collar workers, youth, African-Americans and women of child-bearing age are the target populations. The project is a collaborative effort among DHEC, South Carolina Division of American Cancer Society, and Alliance for a Smoke Free South Carolina. The SCMA was one of the founding members of the coalition.

Secondhand Smoke Warning - Public health clinic staff throughout South Carolina are warning patients, particularly parents, about the health hazards of passive smoking. Educational efforts were launched to coincide with the U.S. Environmental Protection Agency's conclusion that passive smoke (smoke from a smoker's cigarette that others breathe) causes cancer. The EPA report specifically associates environmental tobacco smoke (ETS) with infants' and childrens' health problems, including lower respiratory tract infections, middle ear disease, reduced lung function, and increases severity and episodes of asthma. A December study showed that almost half of South Carolina households with children included smoking adults.

Best Chance Network - South Carolina's Best Chance Network, a five-year effort to establish a statewide network of providers offering breast and cervical screening and education to uninsured and underinsured high risk women, is in its second year. Contracts with primary care physicians, hospitals and other health care organizations will provide screening this year for about 20,000 previously inadequately screened women. A computerized tracking system is used for follow-up of women receiving screening services, and a population-based breast and cervical cancer registry is being developed to capture incidence and stage-at-diagnosis data.

Nutrition and Physical Activity - In addition to Project ASSIST and the Best Chance Network, DHEC's Center for Health Promotion has ongoing programs addressing dietary fat and physical inactivity. Staff also are active in the revival of the South Carolina Nutrition Council, a multidisciplinary group created under executive order to provide leadership in nutrition education in South Carolina. Physical inactivity is receiving more attention as a modifiable risk factor for a number of chronic conditions, which prompted the formation of a coaltion last year to address physical activity in youth. The coalition, known as PLAY (Physical Lifetime Activity for Youth), is exploring legislation to strengthen physical education curriculum in schools. Also, a statewide campaign promoting physical activity will be conducted during May 1993 which is Physical Activity Month. The campaign, conducted under the auspices of the South Carolina Healthy People Coalition, includes support from many other agencies, including the SCMA. In the next several months, a group of articles on physical activity in South Carolina will be published in the SCMA *Journal.*

Maternal and Child Health

Women, Infants and Children (WIC) - During 1992, approximately 103,000 South Carolina women, infants and children were served per month by the WIC supplemental food program with funding of $57 million. South Carolina continues to lead the nation in service to high priority patients (pregnant women and infants) while holding the line on administrative cost per participant. Sixteen percent of the state's postpartum women breastfeed. Also, special areas have been designated as patient breastfeeding sites in each major health department clinic in the state.

Care Line - The Care Line (formerly 1st Nine Care Line) has changed its name to be more inclusive of the entire maternal and child population in South Carolina. The toll-free statewide hotline provides help in gaining access to prenatal, infant, and child health care; family planning services; and other related services to women, their significant others and service providers. A service of DHEC's Division of Maternal Health, the Care Line services include information, education, and resource referral, as well as access to the governor's "Caring for Tomorrow's Children" incentive coupon books. The hotline has served over 40,000 clients in three years of existence. In 1992, Care Line received 15,932 calls from every county in the state. The hotline was also recognized in 1992 by the U.S. Department of Health and Human Services as one of six model maternal and child health hotlines in the nation.

Family Planning - In July 1992, the South Carolina Legislature appropriated $550,000 for the purchase of Norplant systems to be administered through the Title X Family Planning Program. The state Family Planning Office provided training for seven physicians, 32 nurse practitioners, and one certified nurse to perform counseling and assessment services. Low income women of up to 185 percent of the federal poverty guidelines are eligible to receive a Norplant at no charge. Additionally, Norplant services are covered under the state's Medicaid contract for family planning services. As of January 1993, 403 Norplant systems have been inserted statewide.

Neural Tube Defects - A Physicians' Alert on Prevention of Neural Tube Defects from DHEC and the Department of Mental Retardation was sent to all South Carolina physicians on January 18, 1993. The alert noted research which documented that neural tube defects can be prevented with folic acid supplementation. This prevention strategy is of particular importance in South Carolina where the incidence of neural tube defects appears to be greater than in other parts of the United States.

Children's Rehabilitative Services - DHEC's 12 local Children's Rehabilitative Services (CRS) districts served 11,000 children last year. Also, new clinics were added for genetics, sickle cell, and endocrine metabolic services. A focus this year has been on Medicaid enhancement. Medicaid provides reimbursement for clinic services; physical, occupational and speech therapy; case management; and nutrition and social work. Also, reimbursements for genetic services have been increased. Case management services, billable through Medicaid, are not available to children with special health care needs. CRS has placed 34 case managers in local CRS districts.

CHOICES - CRS and Shriners Hospitals continue to link through a partnership called CHOICES to provide maximum services for children with special health care needs. Care coordinators are placed in each Shriners Hospital to facilitate their care as the children move from tertiary centers to local communities.

Camp Burnt Gin - Camp Burnt Gin provided a recreational camping experience for 450 seven- to 15-year old children who have chronic illnesses or disabilities during the summer of 1992. In fiscal year 1993, a special camp session will be held for adolescents through a grant by the Richland Memorial Children's Hospital.

BabyNet - BabyNet, the state's early intervention program for infants and toddlers with developmental delays, is focusing on localization with coordinators being merged into local DHEC health districts. BabyNet staff across the state have participated in the formation of 26 local interagency coordinating councils to address local concerns regarding BabyNet eligible babies and families.

Lead Poisoning Prevention - DHEC's Division of Children's Health has been awarded a five-year grant by the Centers for Disease Control and Prevention (CDC) to develop a comprehensive lead poisoning prevention program. Three counties with high lead poisoning rates (Marion, Marlboro and Sumter) will offer comprehensive services provided by a nurse case manager, a social worker and a nutritionist. A health educator will target private physicians and community leaders to increase awareness and involvement. The public awareness efforts have also extended to other areas of DHEC. Environmental Quality Control's Bureau of Drinking Water Protection has become actively involved in promoting ways to reduce exposure to lead in tap water through media and public awareness and by providing technical advice to the regulated community. The Bureau of Environmental Health is developing new guidelines for environmental surveillance. The Office of External Affairs has assisted in public awareness activities by publishing fact sheets and a booklet on lead and ways to protect families. In Charleston, the Childhood Lead Poisoning Prevention Program continues to be a leader in lead reduction strategies. DHEC staffers involved in community outreach are screening children door-to-door under a separate CDC grant. The group also sponsored an abatement workshop for contractors in early March and has worked with community leaders in developing a city ordinance to protect families from lead poisoning during renovations.

EPSDT Screening - A total of 136,425 screenings were performed in fiscal year 1992 by private and public health providers, which represents a 29 percent increase from the previous year and exceeds the Health and Human Services Finance Commission goal of 118,585. Forty of the 46 counties surpassed their goals.

Expanded Newborn Screening - With input from pediatric genetic and endocrinology medical consultants, the DHEC board approved an expansion of the Newborn Screening Program to include two conditions: galactosemia and congenital adrenal hyperplasia. Testing of all newborns for these conditions started in October 1992.

Nutrition, Psychosocial Services Reimbursement - An initiative to provide Medicaid reimbursement for nutrition and psychosocial intervention services to at-risk children identified through the EPSDT program was developed by DHEC and the Health and Human Services Finance Commission. Private and public health care providers can make referrals to health department nutritionists and social workers. This program was implemented in August 1992.

Access to Care for Children - With leadership from local physicians and through the cooperative efforts of the local chapter of the American Academy of Pediatrics, problems concerning access to care for children are being addressed in the 13 health districts.

Preventive Health

Immunizations - The Governor's Office, SCMA, DHEC, and other professional, medical and health organizations, state agencies and advocacy groups have joined for an initiative to adequately immunize all South Carolina children by two years of age. A statewide immunization awareness campaign will begin in April 1993. Several agencies and organizations will be working to raise the immunization levels of children. Two significant changes in South Carolina's immunization schedule in 1992 are: a second measles immunization for four- or five-year-old children in public kindergarten or pre-school programs, and the recommendation for three hepatitis B immunizations in the first six months of life.

Haemophilus Influenzae B - During the last several years, we have witnessed again the viral miracle produced by immunizations. As happened with diptheria, tetanus, polio, measles and rubella, Haemophilus influenzae B, or Hib disease, in children is now an unusual event, with less than 20 reported cases in South Carolina in 1992. Hib disease is now twice as common in the elderly as in the very young. This translates into the real human numbers of 1992: four children did not die and 50 children did not receive brain damage from Hib disease in South Carolina.

AIDS Cases - The rate of newly reported cases of HIV and AIDS in South Carolina has leveled off to about 100 new HIV cases and 30 new AIDS cases a month. However, because of the expanded case definition for AIDS effective in January, we can expect statistics to show large increases in the number of AIDS cases in South Carolina this year. This will give us a more accurate picture of those needing medical care. This reporting change will not affect the number of HIV cases reported. Physicians in their direct contact with patients, or by public speaking, can influence individuals and communities about prevention of HIV, since our focus remains on prevention.

Other STDs - Since persons with other sexually transmitted diseases are more likely to become infected with HIV when exposed, the treatment of syphilis, gonnorrhea and chlamydia take on new meaning. DHEC has been unsuccessful in obtaining additional state funds to control STDs and federal funding remains stagnant. Physicians should continue to be aggressive in treating STDs in patients and their partners. Support for DHEC to obtain STD funding is critical.

Health Regulation

State Health Planning Committee - The State Health Planning Committee was appointed by the governor to develop the State Health Plan to increase access to health care services and hold down costs. The committee consists of 14 members, 12 appointed by the governor, one appointed by the DHEC board, and the state consumer advocate, who is an ex officio member. With advice of the committee, DHEC will prepare a State Health Plan for use in the administration of the Certificate of Need program. The State Health Plan must be submitted once every two years for final revision and adoption by the board.

Laboratory Improvement Amendments - The Clinical Laboratory Improvement Amendments of 1988, Public Law 100-578, became effective September 1, 1992. The amendments mandate that any laboratory (hospital, physician's office, health department, etc.) that performs a laboratory procedure on a human specimen to diagnose, treat, or assess the health of a human must meet the prescribed conditions and have a certificate from the federal government granting permission to test those specimens. At the February 1993 board meeting, the DHEC board adopted a position that many aspects of the CLIA Act were a concern both for private and public health. A letter outlining this position has been sent by the board chairman to the Health Care Financing Administration (HCFA). DHEC's Bureau of Certifications is the survey agency that represents the HCFA in implementation of CLIA in South Carolina. Surveyors have presented training sessions on the CLIA program to providers of laboratory services in reponse to invitations from professional groups around the state.

Rural Health, Migrant Health, Primary Care

During 1992, 27 providers (18 physicians, one dentist, and eight advanced practice nurses) chose rural practices as a result of recruitment efforts. During 1993, the Office of Rural Health plans to increase the number of placements by continuing its current recruitment practices and visiting the 16 primary care residency and two advanced practice nurses training sites in the state. Also, during 1992, the S.C. Migrant Health Program provided preventive and primary health care services, prescriptions, and limited hospital care to more than 1,300 migrant farm workers and their family members, primarily in Dillon, Marion, Spartanburg, Cherokee, Clarendon and Oconee counties with a federal budget of less than $89,000.

SCMA and Physicians Involvement in Setting DHEC Direction and Standards

SCMA representatives and individual physicians have been active and influential partners in setting direction and standards in many DHEC programs and initiatives. I would like to mention just a few: Obstetrical Task Force, Newborn-Infant Task Force at state and local levels, Family Practice Task Force, Family Planning Alliance, Perinatal Regionalization Work Group, Cancer Advisory Committee, Women's Cancer Task Force, Alliance for a Tobacco-Free South Carolina, MCH Advisory Committee, State Council on Maternal and Infant and Child Health, Children's Rehabilitative Services and Medical Advisory Committee, Governor's Council on Physical Activity, Metabolic/Newborn Screening Committee, Home Health Advisory Committees at state and local levels, Health Care Ethics Task Force, Medical Immunization Advisory Committee, and health district advisory council or county boards of health. I would like to thank the SCMA as an organization, as well as the many individual physicians who have given of their time and expertise to improve the public's health.

Thomas E. Brown, Jr.
Interim Commissioner

REPORT OF THE SOUTH CAROLINA DEPARTMENT OF SOCIAL SERVICES

Medicaid Eligibility Services: The South Carolina Department of Social Services (DSS) provides Medicaid eligibility services for the state's eligible citizens. In response to growing concerns regarding South Carolina's infant mortality/morbidity rate, the Optional Coverage for Pregnant Women and Infants (OCWI) Program was implemented in October 1987 to provide Medicaid coverage to pregnant women and infants up to age one with income below 100 percent of poverty. Effective June 1989, coverage for children to age seven and pregnant women and infants with income below 185 percent of poverty was implemented. In April 1990 the income limit for children between the ages of one and six was changed to 133 percent of poverty and coverage for children ages six and seven with income below 100 percent of poverty was implemented. Effective October 1992, the age limit for children with income below 100 percent of poverty was extended to age 10.

Optional State Supplementation (OSS) provides financial benefits and medical assistance to eligible aged, blind or disabled individuals who are unable to meet the cost of care in a residential care facility licensed by the Department of Health and Environmental Control. The number of persons eligible for OSS continued to increase during FY 91-92. A per month average of 3,695 individuals received OSS benefits during the year with an average monthly payment of $237. In January 1993 the Net Income Limitation (NIL) for establishing eligibility for OSS was increased to $695 per month. Recipients are allowed to keep $33 per month to meet their personal needs. The remainder of the recipient's income is applied to the cost of their care in the facility.

The MAO-Institutional Program serves individuals who reside in Title XIX certified medical facilities. Their monthly income must be below the Medicaid CAP of $1,302, and their countable resources must be below $2,000 ($4,000 for a couple) and $66,480 for a couple when one spouse continues to reside in the community. The patients residing in nursing homes pay all of their monthly income except $30 to the nursing home. The Medicaid program sponsors payment of the difference between the patient's income and the nursing home's Medicaid rate. There are approximately 12,489 MAO-Institutional recipients in the state.

Children Under 21 with Special Living Arrangements is a Medicaid eligibility category that includes children in foster care or private institutions who are being fully or partially supported by public funds. These children cannot establish eligibility for Medicaid benefits if their income exceeds the AFDC needs standard or if their countable resources exceed $1,000. There are approximately 1,624 children in these foster homes and private institutions.

Medicaid eligibles under the **Pass-Along Provision** are individuals who are ineligible for SSI or OSS benefits solely because of the cost of living increase in Social Security benefits. There are approximately 192 individuals eligible for Medicaid in this category.

Title IV-E is a Medicaid category for children for whom the agency makes an adoption assistance or foster care maintenance payment. These children are automatically entitled to Medicaid coverage. More than 2,121 children receive Medicaid benefits because a Title IV-E payment is made on their behalf. This group also covers Title IV-E eligible children from other states who now reside in South Carolina.

Essential Spouses are individuals who are eligible for Medicaid in December 1973 because their needs were included in their husband's or wife's state assistance grant and who were "grandfathered" into the SSI Program. These individuals are eligible for Medicaid as long as they continue to qualify as the essential spouse of the SSI recipient. There are 60 essential spouse cases.

SSI recipients are automatically entitled to Medicaid benefits. Their eligibility is based on information made available from the Social Security Administration. DSS is responsible for ensuring that approximately 94,056 South Carolina residents who received SSI benefits are certified for Medicaid.

Under the **Buy-In Program** DSS enrolls certain groups of Medicaid eligible individuals for Part B Medicare and pays their insurance premiums. Payment of Part B premiums allows the state to pay only coinsurance and deductibles for covered medical services, Part B Medicare pays 80 percent of the allowed charges. Approximately 87,818 persons are receiving benefits through this program.

The EPSDT (Early and Periodic, Screening, Diagnosis and Treatment) Program provides comprehensive physical assessment and restorative dental care, vision and hearing services (including eyeglasses and hearing aids) to Medicaid eligible children from birth to 21 years of age. Approximately 130,000 children are presently eligible for services through this program. During FY 89-90, 77,378 medical screenings were conducted. Approximately 38,000 children received screening exams for dental defects.

Transportation Services are provided through contractual providers or volunteer drivers to any Medicaid eligible recipient. The service is approved and arranged by the local county offices. To approve transportation requests, the client must be accessing a medical service which is covered by the Medicaid program. Approximately 300,000 requests for transportation were honored during fiscal year 1989-90.

Qualified Medicare Beneficiaries/Aged Blind and Disabled (QMB/ABD) individuals receive Medicaid benefits if they are age 65 or older, blind or disabled. These programs have identical eligibility criteria with the exception that QMB individuals are required to have Part A Medicare. For the most part, they are mutually exclusive. The income limit is the poverty level ($568 per individual, $766 per couple) for 1991. The resource limit is $4,000 for an individual $6,000 per couple.

The Sponsored Medicaid Workers Program allows DSS to out-station workers in hospitals and clinics where medical services are delivered. In response to increasing demand for medical services by poor citizens in South Carolina, DSS extended its eligibility outreach first to the Department of Health and Environmental Control (DHEC), with issuance of Directive Memorandum D85-124, dated June 10, 1985. DSS extended to all hospitals in the state, through the South Carolina Hospital Association (SCHA), an invitation to assist DSS in placing workers in their facilities. DSS invites medical facilities to pay the state match for the cost of intake/eligibility workers. In return, DSS trains and supervises this staff in the performance of their duties. These workers are dedicated to maximizing reimbursements to medical providers for services rendered to citizens determined to be Medicaid eligible.

During FY 92 the eligibility outreach effort was extended to local school districts which provide speech therapy and psychological testing services to many of the Medicaid eligible school population.

J. Samuel Griswold, PhD
Interim Commissioner

RESOLUTIONS

SUBMITTED BY: South Carolina Academy of the American Academy of Pediatrics
SUBJECT: **GUN RESPONSIBILITY**

WHEREAS; Over 70 children were killed in South Carolina over a recent four-year period in gun accidents; and

WHEREAS; The factor in many of these accidents was access to firearms for minors in unsupervised situations; therefore, be it

RESOLVED; That the SCMA support the development of legislation on gun access which both educates the public on proper gun storage techniques and provides penalties for individuals who allow minors access to firearms in unsupervised situations.

SUBMITTED BY: Sumter-Clarendon-Lee Medical Society
SUBJECT: **TOXIC WASTE**

WHEREAS, We, the members of the Sumter-Clarendon-Lee Medical Society, feel that our foremost obligation is to protect the health and well-being of the citizens we serve, and feel that the South Carolina Medical Association is the body through which the physicians of this state do jointly carry out this, our joint duty to the public, a responsibility we cannot violate; and

WHEREAS, We continue to feel that the hazardous waste landfill operated by Laidlaw Environmental, previously GSX, currently doing business in Sumter County, does continue to pose a serious potential danger to the health and well-being of our citizens and all of South Carolina; and

WHEREAS, there have been four previous resolutions of the South Carolina Medical Association, each one adopted unanimously in 1985, 1986, 1987, and 1988 by its House of Delegates, the policy making body of the SCMA, resolving or endorsing that "we are opposed to the dumping of toxic waste from other states into the state of South Carolina, and in particular we are opposed to the further operation of a toxic waste dump at Pinewood, South Carolina;" and

WHEREAS, the SCMA did form an Environmental Preservation and Protection Committee, with established goals to "(1) provide the means to educate physicians, patients, and government regarding environmental concerns; (2) provide a forum for the evaluation of the environmental hazards to the public health; and (3) to actively pursue the environmental goals of the SCMA using all means at our disposal;" and

WHEREAS, since the first of the unanimous resolutions in 1985, eight years ago, there has been no evidence presented assuring that safety has been provided in, or as a result of, this landfill of hazardous waste, while South Carolina has continued to allow the dumping of hazardous waste at this landfill, 70 percent of which comes from other states; and

WHEREAS, it is estimated that in excess of an additional one million tons of hazardous waste has been placed in this state, for the posterity of the children of this state; and

WHEREAS, this Laidlaw Landfill is on the banks of Lake Marion, one of South Carolina's most treasured and vital wildlife and recreational resources, the Santee Cooper Lake System; and

WHEREAS, this landfill is not the "Sumter County Landfill," but an enormous, and growing problem for the state of South Carolina; and

WHEREAS, DHEC still has not provided the necessary examination, or re-examination for any licensure, or public forum which informs the public, or its concerned advocates; and

WHEREAS, this issue has not been studied by the Board of Trustees of the South Carolina Medical Association for eight years; therefore, be it

RESOLVED, that the South Carolina Medical Association does advise that the "permanent license" under consideration by DHEC and the state of South Carolina, for continued operation of this landfill be denied.

AMA SPECIAL GUEST: JAMES S. TODD, MD, EXECUTIVE VICE PRESIDENT AMERICAN MEDICAL ASSOCIATION

James S. Todd, MD, a general surgeon from Ridgewood, New Jersey, joined the American Medical Association as Senior Deputy Executive Vice President on February 12, 1985. On February 9, 1990 Dr. Todd was named Acting Executive Vice President and on June 19, 1990 was appointed Executive Vice President. He was a member of the Board of Trustees from July 1980 to June 1984, as well as a Commissioner to JCAH from 1982-85.

Born in 1931, Doctor Todd graduated *cum laude* both from Harvard College and Harvard Medical School. He interned and served his residency in surgery at Columbia Presbyterian Medical Center, becoming Chief Resident in 1963. He is a Diplomate of the American Board of Surgery and a Fellow of the American College of Surgeons. From 1977-1985 he was Chairman of the Board of the New Jersey State Medical Underwriters, Inc. and is a Past President of the Physician Insurers Association of America.

Doctor Todd has been a Director of the Institute of Society, Ethics, and the Life Sciences (Hastings Center) and is a member of the Overseers Committee to Visit the Harvard Medical School. His service to the community includes: Committee to Establish Guidelines for the Care of Comatose Patients, State of New Jersey, 1977; recipient of the Edward J. Ill Distinguished Physician Award of the New Jersey Academy of Medicine in 1980 and the Distinguished Service Award of the New Jersey Hospital Association.

He has served as Trustee and Chairman of the Board of Trustees of the Medical Society of New Jersey, Chairman of the New Jersey Delegation to the AMA House of Delegates, and Chairman of the Ad Hoc Committee to Review the AMA's Principles of Medical Ethics.

Doctor Todd has published numerous articles dealing with health care and professional liability in various journals.

SOCPAC LUNCHEON SPEAKERS: REPRESENTATIVES JAMES E. CLYBURN AND BOB INGLIS

Representative James E. Clyburn

Representative Bob Inglis

Jim Clyburn, a native of Sumter, South Carolina, spent his early adult years in Charleston and has been living in Columbia since 1972. He was elected to the 103rd Congress of the United States on November 3, 1992. Mr. Clyburn serves as President-elect of the Freshman Class and will assume the presidency in January of 1994. He serves on the Public Works and Transportation and the Veterans Affairs Committees. Congressman Clyburn also serves as the Whip for Zone 13 which encompasses South Carolina, North Carolina and Tennessee.

After graduating from South Carolina State University, Mr. Clyburn served as a teacher in the Charleston County Public Schools, an Employment Counselor with the South Carolina Employment Security Commission, Director of the Charleston County Neighborhood Youth Crops and New Careers Projects, and Executive Director of the South Carolina Commission for Farm Workers.

In January, 1971, Mr. Clyburn was appointed to the staff of Governor John C. West and served until October, 1974 when Governor West appointed him Commissioner of the South Carolina Human Affairs Commission. He served as Human Affairs Commissioner until June 1, 1992 when he retired from State Government to run for the Congress.

During his tenure as Human Affairs Commissioner he served as president of the International Association of Official Human Rights Agencies (1985-1987), and president of the National Association of Human Rights Workers (1980-1981).

Mr. Clyburn currently serves on the Governing Boards of Wofford College in Spartanburg, United Way of the Midlands, the James R. Clark Sickle Cell Anemia Foundation, the Center for Cancer Treatment and Research, and the South Carolina Literacy Association. He is a member of the Southern Regional Council in Atlanta, Georgia, a Life Member of the NAACP, a member of Omega Psi Phi Fraternity, Inc., and is a

Mason and Shriner.

Numerous groups have given Mr. Clyburn special recognition. He has been named Public Administrator of the Year by the South Carolina Chapter of the American Society for Public Administration, and is a recipient of the National Governors Association's Annual Award for Distinguished Service to State Government. He has been awarded Honorary Doctorates by Winthrop College and the College of Charleston.

He is married to the former Emily England of Moncks Corner, South Carolina. They have three daughters.

Bob Inglis represents the Fourth Congressional District. He received his education at the May River Academy in Bluffton, SC and Duke University in Durham where he graduated *Summa Cum Laude*. He received his J. D. from the University of Virginia School of Law in May of 1984.

Mr. Inglis is a member of the South Carolina and Georgia Bar Associations, the American Bar Association and the Greenville County Bar Association. His activities include membership in the South Carolinians to Limit Congressional Terms; Leadership Greenville Class XVI; Chamber of Commerce Commercial Real Estate Committee; Board of Directors of Hope Urban Ministries; Counsel to United Ministries; Greenville County United Way Loaned Executive (1987 Campaign); Greenville County Republican Party Executive Committee; and First Monday in Greenville Executive Committee.

He is a Shareholder in the firm of Leatherwood Walker Todd & Mann, P. C. in Greenville, practicing in the area of corporate and commercial transactions with particular emphasis on asset acquisitions and sales, financing transactions and leasing arrangements. He is married to the former Mary Anne Williams and has a son and two daughters.

PRESIDENTIAL BANQUET FEATURED ENTERTAINMENT: "CAROLINA ALIVE"

Bright lights, pounding music and 40 young people smiling. clapping. and singing are all it takes to ignite a vibrant spark on stage. The music will warm you and you're instantly caught up in the glow of Carolina Alive, featuring some of the University of South Carolina's finest singers and dancers. You'll hear some of the country's most loved songs: old favorites, popular show tunes, patriotic tributes and even a selection or two from Broadway.

Carolina Alive is frequently invited to entertain throughout the Southeast at political and community events, business conventions, banquets, and university functions. The group has accepted invitations to perform from coast to coast. They have lit up the stage for Presidents Richard Nixon, Jimmy Carter, Ronald Reagan, and George Bush, as well as noted celebrities Walter Cronkite, Helen Hayes, Jimmy Stewart, and Minnie Pearl. In January of this year, Carolina Alive traveled to Washington D.C. to sing for the American Hospital Association at their Annual Convention. While there, they sang for Strom Thurmond, Congressmen and Senators at the Senate Building Rotunda.

Since its founding in 1973, Carolina Alive has been a musical ambassador from the University and the nation by performing around the world. In 1979, Carolina Alive took its special brand of musical entertainment to Rumania as part of the Friendship Ambassador program. The group toured Mexico in 1979 as part of a special cultural exchange program between USC and Our Little Brother orphanage in Cuernavaca, Mexico. In 1980, they accepted the invitation of the Egyptian ambassador and President Sadat, performing in Cairo and Alexandria. Carolina Alive participated in the nation's 50th Inaugural Entertainment Company in Washington D.C. in 1985 and the group entertained "down under" as featured performers at the 1988 World's Fair in Brisbane, Australia. Carolina Alive has also performed on the open seas for the entertaining pleasure of cruising audiences.

The group has accepted engagements throughout the world and is always excited to entertain new audiences as well as groups they have come to know and love. They hope to continue serving as ambassadors for the University, the state and the nation.

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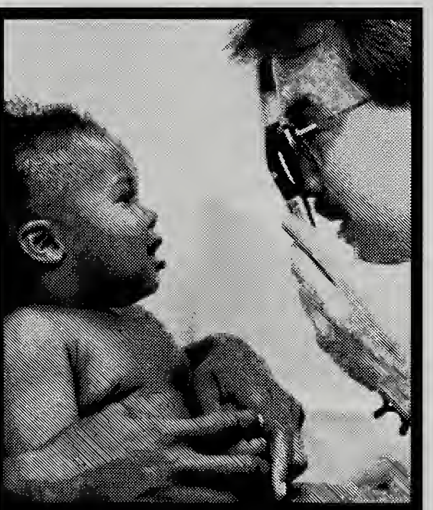
Time for a new partnership: Part 4 of a series

Only one thing is certain about global budgeting. It would short-change our patients.

Some people are recommending that we limit the total number of dollars spent on health care in this country in an attempt to control costs. But this kind of global budgeting just won't work.



We believe that any reform measures must place our patients first.

Various health policy study groups, along with *The New York Times* and the American Medical Association (AMA), are opposed to global budgets. And four out of five Americans, according to a recent Harris poll, reject global budgeting as unworkable.

Global budgets address the symptoms, not the causes, of the health care cost problem. They are purely arbitrary because no one knows what limits to set for health care spending. And there are no accepted principles upon which to base these decisions. It is also uncertain what services would be included or whether budgets would apply only to government payments, or private payments as well.

Global budgets establish a form of price control which runs counter to the concept of stimulating competition between health plans. If payments are capped by the government, patients lose the incentive to make cost-conscious decisions, and those delivering care lose the incentive to compete.

Global budgets could also result in long lines and loss of patient choice. And what happens to our patients when the dollars run out? Do we just turn off the health care system?

Our agenda for change

In the spirit of openness expressed by President Clinton, the 300,000 members of the American Medical Association are working to forge a new partnership with the Administration and members of Congress on behalf of our patients.

Our goal is comprehensive reform of America's health care delivery system and our agenda for change is defined in our proposal, *Health Access America*. One of the cornerstones of this proposal calls for controlling rising costs by bringing economic pressure to bear on the nation's health care system.

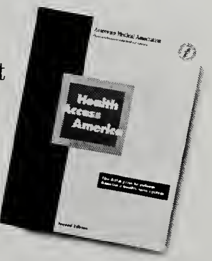
Health Access America would foster competitive prices by physicians and others and assure that patients are given information about fees and insurance benefits before services are rendered. This will aid them in making cost-conscious decisions about the care they receive.

Our plan also calls for reforming health insurance and malpractice liability, ensuring that only necessary care is provided, and reducing administrative waste.

Eleven key issues

Cost containment is only one part of the AMA's agenda for change. Over the course of the new Administration's first 100 days, America's physicians will enter a dialogue with legislators and members of the Clinton team on *eleven key issues* leading to total health system reform.

To stay fully informed, watch for additional messages in this series in *The Washington Post*. And send for our comprehensive proposal, *Health Access America*. We will also mail you our fact sheet on how to lower health care costs. Write Dr. John Clowe, Dept. 2011, American Medical Association, 515 North State Street, Chicago, IL 60610. Or call us today at **800 262-0411.**



American Medical Association
Physicians dedicated to the health of America

Editorials

WHEN DEMOCRATS LAST IN THE DOORYARD BLOOM'D

Pardon the poor attempt at literary allusion. Also, please don't construe what follows as partisan politics. The issue at hand is how best to respond—individually and collectively—to the challenge of sweeping health care change (or, to use the popular parlance, "reform"). What can we learn from what one recent editorialist called "the ghosts of reforms past"?[1] How can we best provide input into the current political debate?

Let us consider what happened during the first administration (1933-1937) of President Franklin D. Roosevelt. Health care reform was proposed but didn't happen. Why? What were the long-range consequences?

The early FDR years resembled the current era in the following ways:

- Democrats controlled the White House and both branches of Congress.
- There was widespread uncertainty about the economy (to put it mildly).
- The public was preoccupied with domestic issues, not foreign affairs.
- There were a number of ongoing experiments in health care financing, including the nascent movements that resulted in today's Blue Cross and Blue Shield.
- There was a preference for solutions at both the state and the federal levels.
- There was uncertainty about whether the public was truly committed to a government solution to the problem of health care financing.

Soon after taking office, Roosevelt put together a blue ribbon Committee on Economic Security (again, does this sound familiar?). Membership included FDR's most intimate advisors, the Secretary of Labor, and some high-ranking academicians. Many of these advisers hoped that health insurance would be part and parcel of the Social Security package that was to be put before Congress. Comprehensive health legislation would include the following:

- improved access to health care, through sweeping reforms.
- a contributory insurance system to provide, in part, for the health care of otherwise-uninsured patients.
- improved quality of health care.
- incentives for states for the development of innovative health insurance plans that met minimum standards for health insurance practice.

The American Medical Association vigorously opposed these changes and—with the help of such influential physicians as Dr. Harvey Cushing—prevailed.[2] The Roosevelt administration was able to tinker with health care here and there, but was unable to bring about anything remotely suggestive of "reform." The time was not ripe.

The AMA took the following positions:

- The medical profession should control all aspects of medical practice.
- Third party payors should not come between the patient and the physician.
- Any system for providing medical care for uninsured persons should be limited to people below a "comfort level" standard of income.
- There should be no restrictions on treatment or prescribing.

It was not until three decades later—under Lyndon Johnson—that Medicare legislation was passed and much of what the Roosevelt administration had envisioned became reality. Third party payors became the norm. Physician reimbursement actually improved, at least for a time. But greater government involvement brought layers of bureaucracy and regulations, just as earlier prophets had predicted.

Today, organized medicine's successful opposition to the FDR proposals would seem to have been a Pyrrhic victory, at best. As this issue goes to press, the lead story in *American Medical News* contains the following observation:

"Organized medicine has come a long way fast in its reform views...But ardent reformers haven't forgotten that for most of the century the AMA led the fight against national health insurance. Medicine's past opposition to reform, and its current reticence to say what it's willing to sacrifice, make it a suspect convert."[3]

Thus, to return to the original question, how can we best contribute to the debate? The obvious answer: we must be involved both individually and collectively. Nobody has all of the answers, and any proposed solution is likely to be flawed. Yet here and there, as we look around us, we find glimmers of hope that it might just be possible to develop what has been notably lacking from American health care policy: a shared vision based on shared values. People are beginning to ask the serious questions: in an era of limited resources, what price can and should we pay for health care delivery—and when, and for whom, and how? In the absence of shared societal values, our ability to do so much (but at great cost) inevitably makes us part of the problem. Only by participating in the public dialogue—whenever, wherever, and however we can—will it be possible for us to be part of the solution. We must have the courage to trust that, in the long run, what is good and right for society is also good and right for us.

—CSB

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2. Goldfield N: The AMA faces down FDR and wins. Physician Executive 19 (1): 3-8, 1993.
3. American Medical News, February 22, 1993.

WHAT IS PAST IS PROLOGUE

The motto carved in granite at the National Archives building in Washington, D.C. certainly applies to this letter written in 1950 from South Carolina congressman Hugo Sims, Jr. to Dr. J. Adams Hayne, a former SCMA president who served for many years as the state health officer:

June 21, 1950

Dr. J. Adams Hayne
R.F.D.
Eastover, S.C.

Dear Dr. Hayne:

Since I have had a number of letters from doctors in my district requesting my stand on socialized medicine and compulsory health insurance, I am taking the liberty of giving you my views.

I am opposed to socialized medicine and to President Truman's plan for compulsory health insurance.

On the other hand, I do not agree with the AMA that there is no need for comprehensive legislation in the field of health.

I believe that direct government aid is desirable for the expansion of medical facilities, especially hospitals, and for increasing the capacity of medical schools. I also feel that perhaps some special aid should be provided for backward areas.

In my opinion, expanding facilities and services is our first problem, but by no means our whole problem. The biggest part of the eventual problem has to do with the cost of medical care.

Perhaps the answer to the problem of medical cost is voluntary health insurance, with our government partially subsidizing the premium cost of those people in the lower income group. My views on this have not completely jellied, and, consequently, I will appreciate very much having the benefit of your advice and experience.

Call on me whenever I can be of any assistance to you.

With warm personal regards, I am

Sincerely,
Hugo S. Sims, Jr.

Whether Congressman Sims' views ever "completely jellied" is undetermined. However, he seems to have been prescient on two points: (1) the most pressing long-range problem would be cost of medical care; and (2) both public and private sectors would need to work in concert to improve access. As they say, what goes around comes around!

—CSB

Letters to the Editor

To the Editor:

There has been much discussion recently regarding control of health care costs in this country. The proposed Physicians Care Network currently promoted be the SCMA has, as one of its stated objectives, to allow physicians to share financial risks with purchasers. Under this plan physicians will lose part of their income if the cost of providing health care rises over a target amount.

In this letter I do not debate whether or not it is desirable or appropriate for physicians to share financial risks with health care purchasers. I do take exception to the manner in which the SCMA proposes to assess or distribute this risk. It is proposed that 15 percent of payments to physicians will be held in escrow during each fiscal year. At the end of the year these funds will be used to reimburse the purchaser if his costs have been above the contracted amount. Otherwise, the money (less a three percent administrative fee) will be distributed back to the physicians for whom it was withheld.

I submit that this method is inequitable, with office based physicians (typically those involved in primary care) exposing a higher percentage of their income to risk or loss than hospital-based physicians or physicians who earn a significant part of their income in hospital based practice. As a family physician, my overhead expenses are approximately 50 percent of my charges. Therefore a 15 percent holdback decreases my actual pay by 30 percent. For physicians with a substantially lower overhead as a percentage of charges, the impact on pay will be less. For a hospital-based physician with minimal overhead expenses the actual pay loss would be 15 percent (one-half of the impact on office based physicians).

If physicians are going to be asked to make sacrifices or assume risks, they must be distributed equitable. As a primary care physician, I find this particular feature of the proposed Physician Care Network unacceptable.

Dennis W. Murphy, M. D.
110 Liner Drive
Greenwood, Sc 29646

Auxiliary Page

REPORT OF THE SCMA AUXILIARY TO THE 1993 SCMA HOUSE OF DELEGATES

The South Carolina Medical Association Auxiliary is celebrating its 70th Anniversary this year. By building on our past insights and accomplishments, we have strengthened the present organization in order to secure and insure its future. This year marks the first time in our auxiliary's history that a second generation president has served the organization. The 1992-93 state president, Hope Gazes Grayson (Mrs. J. Michael), is the daughter of 1968-69 state president, Athena Gazes (Mrs. Peter C.).

The SCMA Auxiliary, with its 24 organized county auxiliaries, has served the communities in South Carolina through health education projects focused on insuring good health, providing access to care, and improving quality of life for all South Carolinians.

The Health Promotion Committee assisted the SCMA in getting Organ Donation posters into physicians' offices across the state. Other areas of focus in health promotion included:

- The **Grow With Books** project which, in conjunction with the South Carolina State Library, promotes literacy and good health from birth;
- **The National Red Ribbon Campaign**, observed statewide from October 24 - November 1, 1992, promotes a drug-free America;
- Newly revised plastic **Teen Direct Line** Cards list emergency toll-free numbers. Funds to reprint the Teen Direct Line Cards were raised by the sale of Lythea Gatgounis' Low Cholesterol Greek Heritage Cookbook;
- The auxiliary has targeted the problem of Domestic Violence with emphasis on public education. County projects include support centers for abused women and children.

The Membership Development Committee's goals have been RETURN, RETAIN, and RECRUIT. The AMA Auxiliary's PLUS ONE Campaign, which emphasizes one new county, state, or national member, has been promoted. With the addition of a new Resident Physician/Medical Student Spouse (RP/MSS) group in Greenwood, the SCMA Auxiliary has achieved a PLUS ONE goal.

The Finance Committee, at the request of the SCMA, has been developing an optional central billing system for the auxiliary. This will be discussed at the House of Delegates Meeting in April.

The Legislative Affairs Committee held a workshop on September 9, 1992, entitled "How the State Legislature Works." The Honorable Nick A. Theodore, Lieutenant Governor of South Carolina; Mr. Moses Clarkson, Lobbyist; and Mr. William F. Mahon, SCMA Executive Vice President, were guest speakers. The Legislative Affairs Committee also sponsored a "Day at the Legislature" on February 24. Auxilians were given an update on current medical legislation by Mr. Steve Williams, Director, SCMA Legal Affairs; Mrs. Jan McKellar, Director, SCMA Health Policy Affairs; and Mr. Mahon. Following the update, auxilians met with their legislators, attended committee meetings, and were introduced during their observation of the General Assembly in session. A statewide "Phone Book" was initiated, at the request of the SCMA, to contact legislators concerning legislation affecting medicine.

Auxiliary membership in SOCPAC has been encouraged by two membership drives during the year. Skippy Adkins represents the auxiliary on the SOCPAC Board.

To date, over $28,000 has been raised for AMA/ERF this year. The money has been raised primarily by county auxiliary Holiday Sharing Cards. The AMA/ERF all-purpose cards were used to honor doctors on Doctor's Day. The state auxiliary is sponsoring the drawing for a black mink jacket at the Annual Convention. Funds raised to date by this project are over $1,100. Checks will be presented to the Medical University of South Carolina and the University of South Carolina School of Medicine at the SCMA House of Delegates meeting.

Archives Chairman, Nellie Claire Brown, and her committee compiled and published a "Seventy-Year History" of the state auxiliary, including photos of the past state presidents.

The SCMA Auxiliary sent a contribution to the Hurricane Andrew Disaster Relief Fund of the Florida Medical Foundation to assist physicians' families who lost their homes and offices.

The SCMA Auxiliary cosponsored the School Nurse Council of the S.C. Nurses Association. The state president presented the Annual School Nurse Award.

The most important issue that the state auxiliary is addressing is the review of our organization's name. A special committee, chaired by Betty Hester, president-elect, is recommending that the name of the SCMA Auxiliary be changed to South Carolina Medical Association Alliance, with the tagline: "Physicians' spouses dedicated to the health of South Carolina." This is to conform with national's changes and will be presented at the House of Delegates meeting in April.

At Convention 1993: 70th Anniversary Celebration, special guests will include Priscilla Gerber, AMA Auxiliary President, and Carrie Lee Davis, M.D., Miss South Carolina.

The SCMA Auxiliary is most appreciative of the support and guidance of the SCMA. We especially thank Dr. Barone, Dr. Weston, Mr. Mahon and Mrs. Whittaker for attending our Fall Executive Board Meeting. We thank the SCMA Board of Trustees for the opportunity to attend board meetings, as well as to serve on eight SCMA committees. We appreciate the privilege of a monthly auxiliary page in *The Journal.* Our gratitude is also extended to the SCMA staff, and especially Ms. Cathy Boland, Auxiliary Staff Director.

This has truly been a year of accomplishment as well as a year of planning for the future. As partners with medicine, the auxiliary and association will continue not only to remain an effective support system for medical families and for our communities, but also to face together the bold challenges of the future of medicine.

Hope Gazes Grayson (Mrs. J. Michael Grayson)
SCMAA President, 1992-1993

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President's Page

PRESIDENT'S ADDRESS

TO THE SCMA HOUSE OF DELEGATES

April 25, 1993

Friends, guests and colleagues, as I stand here before you this morning, I am filled with a mixture of emotions. I am grateful that you have given me the opportunity to serve as the 130th president of the South Carolina Medical Association. I am also proud to be a member of this profession and this organization. Many changes have occurred in the almost 25 years since I graduated from the Medical University here in Charleston. In recent times, these changes in medicine seem to have reached a crescendo and, like an ocean tide, can neither be delayed nor totally controlled.

There are forces which seek to determine our destiny and that of medicine in general. Proprietary corporations, hospitals, third party payors (both private and public) are among this group. Those that seek to determine the direction of health care reform attempt to divide us and set physicians in adversarial relationships. Difficult times are upon us and many physicians are uncertain as to what response is appropriate.

What contribution will this organization bring to the process? What are my goals in the office of president and are they achievable and relevant?

First of all, I don't think anyone has the total solution to health care reform. In order to solve the access and cost problems of the American health care system, there must be give and take on all sides. However, there are values which I believe are fundamental and should be preserved. First and foremost, decisions must be made in the best interest of our patients. And we, as physicians, are the patients' best advocates. However, many of these decisions will be made by economists, politicians, administrators, businessmen, and others whose perspectives often conflict with ours. As a result, the traditional doctor-patient relationship is being altered. We must commit ourselves to preserving a strong decision-making role to ensure that the highest quality care possible is delivered to our patients.

Outside forces will try to fragment our profession and divide us by specialty, hospital affiliation, geography, and age by using economics and other divisive factors. The South Carolina Medical Association is the vehicle for cohesion and unity and our efforts this year will be directed at consensus building among our various constituents. Without a commitment to a unity of purpose and goals, we might as well save our dues and become employees of the insurance companies, health maintenance organizations, hospitals or others.

We have a narrow window of opportunity to act in a concerted fashion to affect the outcome of how health care will be delivered in the future. Individual physicians are often put into circumstances of having to react to situations rather than having the time and resources to prospectively plan for the long term. Because of these and other constraints, we are often forced to be more short-sighted in our planning than those with whom we battle on an almost daily basis. By developing the Physicians Care Network, the SCMA has looked toward the future and put us in a position to be leaders in health care reform while controlling our own destiny.

Sometimes we get discouraged because organized medicine has made concessions in order to work with others who in turn have not kept their commitments. Congress, on a number of occasions, has passed health legislation that it poorly understood and which did not accomplish stated goals. Costs have accelerated, paperwork has increased, access has diminished and efficiency has been compromised. The alphabet soup of OSHAs, RBRVSs, DRGs, and others has spawned a system that lacks flexibility and compassion. However, we must remain optimistic and remember our successes such as the changes in CLIA which are a result of our 100,000 letters to Congress. Though the Clinton Administration has refused to allow medicine a seat at the reform table, we must persevere and become a voice that they can't ignore.

Within the house of medicine, we also must place a higher value on primary care. If this requires a more equitable distribution of reimbursement among specialties, we should be able to move in that direction. Even though we are a small group in a small state, when we act together with a singleness of purpose, we can effect meaningful change. Through our involvement in the JUA and PCF, we have produced the lowest malpractice liability rate in the country. This achievement should serve as a reminder, not only of what we can do, but what we should be accomplishing in a number of different areas.

During my tenure, I hope to promote a more active leadership role for the SCMA. I will promote cooperation with those who share a commonality of interest in our patients. I will promote strength through unity so that we may influence those who are willing to cooperate, and compete effectively with those who are not so inclined. Participate in this grand project. Become more knowledgeable of the issues. Convince us if we are wrong, support us when we are right and help us to pursue, in a selfless fashion, our goals for the common good of both physicians and patients.

E W Catalano MD

Edward W. Catalano, M. D.
President

The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

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Contents

Special Issue: Rheumatology in South Carolina

Guest Editors: E. Carwile LeRoy, M. D.
Richard A. Hoppmann, M. D.

235 **Introduction**
Walter Bonner, M. D.

237 **A Help for Painful Osteoarthritis of the Knee: "Doctor, you sure know where to mash."**
Walter Bonner, M. D.

240 **Gout: Modern Management of an Ancient Malady**
Robert E. Boyd, M. D.

251 **Rheumatoid Arthritis**
Clarence W. Legerton, III, M. D.

Editorial

261 **Rheumatology in South Carolina**
Richard A. Hoppmann, M. D.

Features

265 **Auxiliary Page**
264 **On The Cover**
230 **President's Page**

Association

263 **Gray Matter**
268 **Physician Recognition Award**
247 **SCMA Newsletter**

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The Journal
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89 MAY 1993 NUMBER 5

SPECIAL ISSUE: RHEUMATOLOGY IN SOUTH CAROLINA, PART ONE

GUEST EDITORS: E. CARWILE LEROY, M. D.
RICHARD A. HOPPMANN, M. D.

INTRODUCTION

WALTER BONNER, M. D.*

In 1970 Elsie Taber, Ph.D., Professor of Anatomy at the Medical University of South Carolina, asked me to identify the best rheumatologist in Columbia. She had relatives in Columbia and wanted to know who to refer them to. I answered: "I am, when I am in Columbia." Elsie has never let me forget that pompous sounding remark, even though I hastened to explain that there were no rheumatologists in Columbia, and indeed no others in the state.

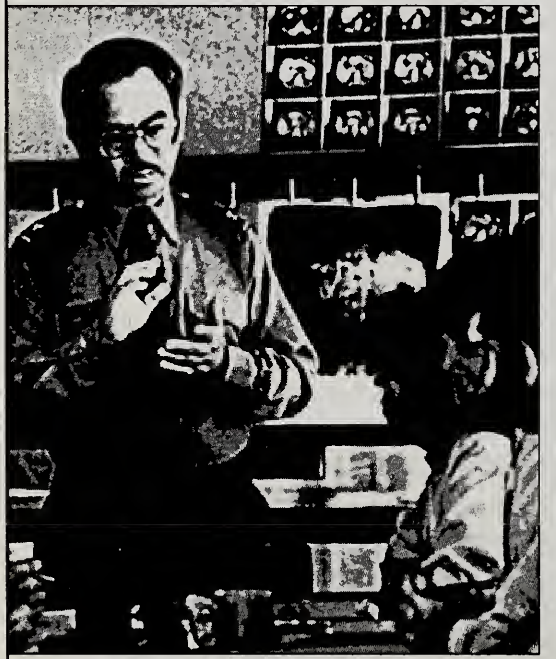
South Carolina's deficiency has now been largely corrected. Thirty-one rheumatologists now practice in the state, with the great majority concentrated in the population centers of Charleston, Columbia, Greenville and Spartanburg. There is one in Florence and one in Rock Hill. From what I see and hear there remain opportunities to enjoy busy rheumatology practice not only in the larger cities but especially in the regional centers such as Anderson, Conway–Myrtle Beach, Greenwood, and Orangeburg. It is not certain that these positions will be filled, because programs in rheumatology are now graduating fewer trainees and because more graduates are accepting academic appointments. Some of the need (and opportunity) for rheumatology services in our communities may be provided by primary care internists and family practitioners moving into these areas. We may also see some dispersal of existing rheumatology practices into the smaller communities.

The papers in this issue of *The Journal,* as well as another issue to follow later this year, all submitted by South Carolina rheumatologists, embrace much of the scope of clinical work done by rheumatologists – degenerative disease of joints and spine, inflammatory diseases or connective tissue diseases, soft tissue pain syndromes, pain management, metabolic bone disease, and gout. This compilation was conceived by Dr. E. Carwile LeRoy and has been edited by Dr. LeRoy and by Dr. Richard Hoppmann. These physicians are directors of the Division of Rheumatology at the Medical University of South Carolina and at the University of South Carolina School of Medicine, respectively.

---

*Address correspondence to Dr. Bonner at 14 Farmfield Avenue, Charleston, SC 29407.

I look forward to working with and competing against the talented, well-trained men and women who are strengthening rheumatology practice in our state. And, Elsie, when I am in McClellanville, as I am from time to time, I can say with some confidence that I am the best rheumatologist between Jeremy Creek and Cooter Pen Creek. ❐



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A HELP FOR PAINFUL OSTEOARTHRITIS OF THE KNEE: “Doctor, you sure know where to mash.”

WALTER BONNER, M. D.*

Painful osteoarthritis of the knee can be helped by treatment directed at sites apart from the primary pathological changes in the disease. This report will emphasize the utility of that great diagnostic implement – the examiner’s index finger – in detecting the source or sources of pain about the osteoarthritic knee.

THE PROBLEM

At least 10 percent of Americans over age 65 have symptomatic osteoarthritis of the knee.[1,2] It is a familiar entity. When the common findings of bony enlargement, crepitus, and tenderness without evidence of inflammation are accompanied by the characteristic radiographic abnormalities (joint space narrowing and marginal osteophyte formation) a diagnosis can be made with great precision.[3]

The basic pathological process active in the disease is premature degeneration of metabolically active articular cartilage. As yet, however, clinicians have no remedy which will protect cartilage or reverse the changes in a damaged joint. Patients must be treated symptomatically. And there is the problem: pain, which is the reason patients seek medical attention, has seemed frustratingly dissociated from pathological changes in the joint, and pain has not yielded to simple and safe remedies.

Only about 50 percent of patients with x-ray evidence of osteoarthritis report having any pain at all.[4] Pain in or about the knee does not always presage progressive articular damage although it generally does.[2] Pain varies in intensity and may disappear. The site of pain may not match the site of anatomical damage as revealed by x-ray.

Hadler has editorialized, “Knee Pain is the Malady – Not Osteoarthritis,” suggesting that knee pain is almost a separate entity with different risk factors.[5] Others believe that psychological processes explain the discrepancy between objective disease on one hand and functional impairment and pain on the other.[6]

SYMPTOM PRODUCTION

Articular cartilage is a nerve-free tissue, so the primary lesion of osteoarthritis is not painful. It is the secondary abnormalities or consequences of cartilage degeneration which cause pain.[7] These sources vary from individual to individual, and even vary from site to site in a single individual.

With narrowing of articular cartilage the joint becomes unstable, straining the supportive structures – the joint capsule, the ligaments, the muscles, the tendons, the menisci. The earliest symptoms of osteoarthritis are caused by inflammation or tearing of these structures.

As the disease progresses, trauma to the synovium or irritation of synovium by bits and pieces of cartilage may induce synovitis. Effusions cause pain rather late in the course of the disease.

Throughout development of osteoarthritis of the knee there is thickening of subchondral bone in response to altered weight bearing. Subchondral bone becomes increasingly rigid. Microfractures, and increased venous pressure of subchondral bone, may be sources of a mild, dull, achy discomfort which continues throughout the course of the disease.[8]

EVALUATION

A systematic, comprehensive search will yield opportunities to relieve pain at least temporarily.

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The clinician should study each lower extremity as a functioning unit, observing gait, testing hip and low back movement, comparing leg lengths, checking the pulses and the reflexes. At length, attention will be directed to the knees, testing stability, passively moving the joints to detect crepitation on motion, seeking effusions in the prepatellar bursae and the popliteal spaces. Finally, the examiner will systematically palpate the tissues about the knees, seeking tender sites. By far the most frequent source of pain, in my experience, is the site of attachment of deep fibers of the medial collateral ligament on the upper tibia, just below the joint line (Figure 1). Some believe the source of pain at this site is a bursa – (the "no-name, no-fame bursa") – between the deep and superficial fibers of the ligament.[9] The examiner can detect tenderness there and reproduce the patient's pain in nearly all symptomatic joints. This point may be thought of as the master tender point of the knee. Other, less common, tender sites are listed in Table 1.

It must be remembered that a finding of tenderness at these sites is not diagnostic of osteoarthritis. Other diseases may cause joint instability with strain on supportive structures.

OTHER STUDIES

Plain radiographs of both knees are important in establishing a diagnosis. Antero-posterior films should be made of both knees simultaneously, the patient standing, to demonstrate narrowing of joint spaces. Lateral views made recumbent are valuable in study of the patellofemoral portions of the joint and in detection of loose bodies.

Synovial fluid analysis should be accomplished, at least the first time fluid is removed from a joint, but this will be late in the symptomatic course of osteoarthritis. MR scans are needed in patients who have intractable pain but no sure source of the discomfort.

But the greatest of all diagnostic implements is the examiner's index finger. It can rarely be fooled.

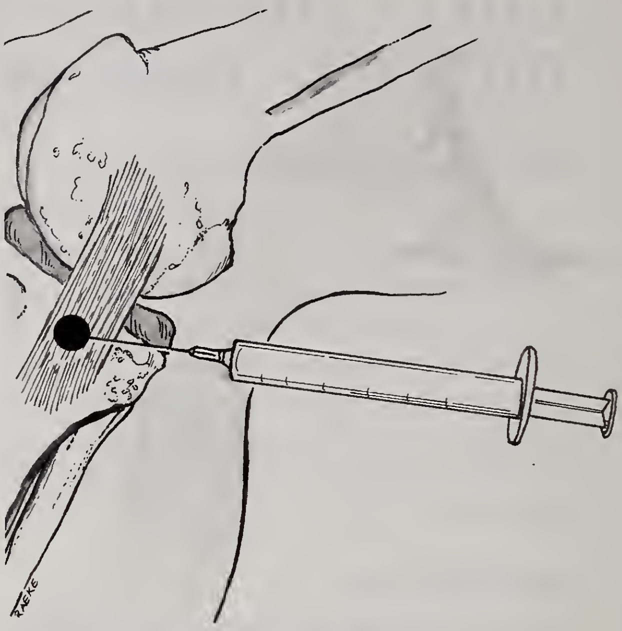

Figure 1. Medial aspect of the knee. The common tender site is the point of insertion of deep fibers of the medial collateral ligament on the tibia.

TABLE 1

PALPABLE, REPRODUCABLE SOURCES OF PAIN IN OSTEOARTHRITIS OF THE KNEE

(In approximate order of frequency beginning with the most frequent.)

1. Insertion of the deep fibers of the medial collateral ligament on the tibia.
2. Insertion of the ilio-tibial band on the lateral aspect of the tibia.
3. The anserine bursa, medial, beneath the insertions of the sartorius, gracilus, and semitendinosus muscles.
4. The margins of the patella—medial, lateral, superior.
5. The insertion of the lateral collateral ligament on the tibia.
6. The posteromedial aspect of the knee, site of a distended semimembranous bursa forming a popliteal (Baker's) cyst.
7. The joint line antero-medially, attachment of the medial meniscus to the joint capsule.
8. The joint line laterally, site of attachment of the lateral meniscus to the joint capsule.

HOW TO HELP

The best opportunities to help pain are present in those months or years when the disease is first symptomatic. This is when slight instability and crepitation on motion can be demonstrated, and when x-rays show slight joint space narrowing plus marginal osteophyte formation — which is before there is great instability or recurrent effusion. In this epoch pain is nearly always extra-articular in origin. The tender site at the medial aspect of the tibia is the most common site of all.

Injection of an extra-articular tender site with a mixture of a local anesthetic and a corticosteroid may give prompt relief lasting days or weeks. Patients thus treated are gratified to learn that their pain can be helped, and are inspired to participate in further conservative, nonsurgical therapy including use of supportive footwear and performance of strengthening exercises.

My routine is to inject the tender site with 2.0-2.5 ml of a local anesthetic mixed with 5-10 mgm of DepoMedrol,® or the equivalent dose of any long-acting corticosteroid. Such soft tissue injection, as elsewhere, should preferably be done every three to four months. No site, even if painful, should be reinjected in less than four weeks.

HAPPY PATIENTS

I have seen no happier patients than those with osteoarthritis of the knee who have had their pain helped by a local injection of a corticosteroid-anesthetic mixture and who have been inspired to stabilize their knee joints with proper shoes and an exercise program. I am convinced that many of these persons have enjoyed months or years of comfort with little restriction of activity. Many have said to me: "Doctor, you sure know where to mash." ❐

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GOUT: MODERN MANAGEMENT OF AN ANCIENT MALADY

ROBERT E. BOYD, M. D.*

"I feel as if someone were standing on my eyeballs!" So lamented Sir Thomas Sydenham in the late 1600s while in the grip of an acute gout attack from which this esteemed British physician suffered intermittently for over three decades. What was first described by Hippocrates 25 centuries ago as podagra (literally "foot seizure") still plagues more than one million modern day Americans. Along with septic arthritis, gout is probably the most acutely painful of all the arthritides. Thus, since gout is not only quite common but also most difficult for the patient to ignore, it results in every South Carolina primary care physician being met with the challenge of managing the spectrum of gout many times every year. The purpose of this brief article is to review the modern day concepts of this most ancient disorder with emphasis on practical management.

THE FIVE KEY QUESTIONS

Gout is one of the few arthritic processes about which much is understood of the pathophysiology of disease and its basic etiology — a metabolic derangement resulting in excess uric acid. This knowledge has led to simple, readily available diagnostic methods such as measurement of serum uric acid and synovial fluid analysis for monosodium urate (MSU) crystals. Likewise, application of basic research has resulted in development of extremely useful drugs such as allopurinol for treatment. This large body of knowledge has also produced an explosion of books, lengthy textbook chapters and review articles consisting of dozens of pages allocated to gout.

My practical, in-office approach is to ask five key questions when confronted with a patient who has podagra or a similar "gout-like" presentation. While this approach does admittedly run the risk of being overly simplistic, it has been helpful to me and is much less complicated than the standard treatises of management.

QUESTION 1: *Does this patient have a reasonable chance of having gout and a low likelihood of having a septic joint?*

Of course it is optimal to have the precise diagnosis but the exact diagnosis is obviously not always possible or practical to obtain. The typical clinical, laboratory and x-ray findings in classic gout are familiar to all primary care physicians and will not be covered here.[1] The key with possible acute gout is not to miss a disorder that would be best treated with something other than nonsteroidal anti-inflammatory drugs (NSAIDs). If one treats a 30-year-old male who has podagra with NSAIDs for gout and it turns out later that he has Reiter's disease/reactive arthritis, little or no harm has been done. However, if this same 30-year-old male has staph septic arthritis associated with IV drug abuse, obviously NSAID treatment without proper infectious and possibly surgical treatment could result in an unfavorable outcome. Thus, in the setting of a new, acute podagra or other "gouty-like" presentation, consider especially the following points in your history and examination: Is the host/patient an appropriate one for gout? Is the host toxic or systemically ill? Is there a history of trauma or a history to suggest worrisome drug or sexual exposure? Is there a history of an elevated uric acid? And finally, is the patient reliable? For example, suppose a 40-year-old male whom you know well and have seen annually for a physical for 10 years presents with podagra. He is nontoxic with no history of trauma, IV drug use or at risk sexual exposure. His uric acid on a chemistry panel last year was 9.5 mg/dL. You are confident he will follow up in 48 to 72 hours for re-evaluation. It would be appropriate to put him on an NSAID without joint aspiration. If he has not improved at follow up, one could always evaluate further and include arthrocentesis for culture and crystal analysis as part of the investigation. A second example would be a 25-year-old female who presents with podagra of one month's duration. She would not be an appropriate host with a presentation typical for gout. Thus, another of the many causes of podagra should be sought in her.[2] It is important to note that even a patient with known gout (proven in the past by MSU crystals at arthrocentesis) should have further evaluation if the presentation is not typical. For instance, while gout can cause fever, septic arthritis and gout have clearly been shown to co-exist.[3] Infectious arthritis should be considered in the febrile, toxic gout patient. Of course, the unreliable patient is a management problem in any disease process and would lead to arthrocentesis for culture at least if the chance of patient follow-up is in doubt. One final point is that a normal serum uric acid does not rule out the diagnosis of acute gout. While the serum uric acid will usually be high during the intercritical phase in gout and is helpful in monitoring therapy, it is less helpful with diagnosis during an acute attack.

---

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Thus, the time honored and widely used clinical approach of a therapeutic trial in patients with a "gout-like" presentation is appropriate providing there is little likelihood of a septic joint or bone fracture. Otherwise, arthrocentesis with synovial fluid evaluation is in order. In short, one can treat appropriately with a high degree of confidence even without the precise diagnosis.

QUESTION 2: *How should I treat the acute gouty attack?*

The answer is almost always NSAIDs. In the absence of anticoagulant use, peptic ulcer disease, azotemia or hepatic disease, NSAIDs are the drugs of choice. Theoretically the NSAIDs with shorter half-lives (typical tid and qid drugs) are said to work faster. However, practically speaking, all nonsalicylate NSAIDs will work well in the outpatient setting. Oral colchicine therapy in the "old standby" dose of 0.6 mg every hour until either diarrhea occurs or the gout is better is almost always unsatisfactory causing predictably severe diarrhea. The typical result is an elderly male hobbling to the bathroom on a painful foot with a severe misery in his abdomen and curses on his lips for the doctor who gave him this vile remedy. In refractory cases of gout not responsive to NSAIDs or when NSAIDs cannot be used (such as in azotemia), a short tapering course of oral steroids over five to seven days is usually effective. For an occasional post-operative patient or other in-hospital patient unable to take oral medications, IV steroids or intra-articular steroids may be the preferred therapy.

Were it not for the topic of IV colchicine, the acute treatment of gout would be virtually without controversy. There have been calls to ban the use of IV colchicine completely[4] as has been done in Great Britain. On the other hand, it can be useful in aborting an acute attack of gout if used early in the course (less than 12 to 24 hours after onset). If used, the recommendations of Wallace and Singer as modified by Moreland and Ball should be strictly followed (Table 1).[5] On balance, use of IV colchicine is losing favor, especially in view of potential fatal bone marrow toxicity, and should be avoided if other options exist.

QUESTION 3: *Should I try to lower the uric acid during an acute attack?*

NEVER! It may prolong the episode or convert monoarticular gout to polyarticular gout. Allopurinol or probenecid should thus not be started during a flare.

QUESTION 4: *Should I try to lower the uric acid at the intercritical phase after an acute gout attack?*

The decision as to whether or not to use a uric acid lowering drug is perhaps the most misunderstood question of all. Whether to use allopurinol or probenecid depends entirely on how frequent and how severe the attacks are — in other words, it depends on the course of the disease over time. For example, suppose a 50-year-old male with a history of two attacks per year for five or six years presents now having had an episode every two weeks for the past five months. He is clearly a candidate for uric acid lowering therapy once his acute flares are controlled and he is at an intercritical state. At the other end of the spectrum would be a post menopausal woman of 60 who is experiencing her second attack in five years. In her case you should merely treat her acute attack and do nothing more — no matter what the level of her uric acid. The higher the serum uric acid, in general, the more likely the patient is to have more frequent and severe flares.[6] However, the serum uric acid level is not sufficiently predictive to make a therapeutic decision based on it alone.

If doctor and patient make the subjective decision to start preventive therapy, prophylactic colchicine 0.6 mg bid can be highly effective.[7] If colchicine alone is not effective, probenecid or allopurinol should be considered. In the absence of azotemia or renal stones, probenecid is preferred for hypoexcreters of uric acid (generally defined as less than 700 mg of urine uric acid per 24 hours on a regular diet). It is prescribed at a dose of 500-1500 mg per day in two to three divided doses. If probenecid cannot be used or is not effective, allopurinol 100-300 mg per day is typically recommended. Although the frequency of side effects is roughly equal between the two, the severity of toxic reaction with allopurinol is greater than with probenecid.

QUESTION 5: *In the absence of frequent, severe attacks of gout, are there reasons to lower uric acid?*

There is general agreement that the presence of uric acid renal calculi or visible tophi nearly always require treatment. In addition, chronic, tophaceous gouty arthritis can at times be as destructive as other chronic, inflammatory joint processes such as rheumatoid arthritis. These less common but much more severe cases of gout may require not only chronic NSAIDs but also prophylactic colchicine and high dose uric acid lowering drugs together as triple therapy. It can take years, but consistent therapy can often help even in these most severe cases.

TABLE 1

GUIDELINES FOR IV COLCHICINE USE BY MORELAND AND BALL[5]

1. A single IV dose should not exceed 3 mg, and total cumulative dose for an attack should not exceed 4 mg in a 24-hour period.
2. Patients should receive no more colchicine by any route for seven days after a full IV dose.
3. The dose should be reduced in the presence of renal or hepatic disease and in the older patient with apparent normal renal function.
4. Absolute contraindications to IV colchicine use for acute gout include combined hepatic and renal disease, creatinine clearance rates less than 10 ml/minute, extrahepatic biliary obstruction, coexistent severe infections, preexistent bone marrow depression or immediate prior use of oral colchicine.
5. IV colchicine can cause tissue damage. It should be diluted in 20 ml of normal saline and given in a freely running IV line over 20 minutes.

MISCELLANEOUS

Early on in the course of gout it is characteristic for the patient to be completely asymptomatic with normal joint function between acute attacks. Over the years, in contrast, attacks may linger and symptoms and signs of chronic synovitis may appear. This chronic synovitis can be symmetrical and polyarticular mimicking rheumatoid arthritis. Since polyarticular gout is so much more manageable than rheumatoid arthritis, one should consider joint aspiration with crystal analysis at some point in the management of patients with chronic polyarticular synovitis — especially if there is a prodromal history of years of gouty-like arthritis that evolves into a rheumatoid arthritis-like process. There are also other microcrystalline processes such as calcium pyrophosphate deposition disease (pseudogout, CPPD), calcium oxalate and apatite crystal diseases. They can at times mimic gout — CPPD especially is by its very name a pseudogout like process. Discussion of these is beyond the scope of this article.[8]

SUMMARY

If Dr. Sydenham could have benefited from today's therapy, he likely would not have had to endure thirty years of "violent...torture" that gave birth to his most elegant and classic description of acute gout.[9] The five key points to remember in management of the gouty spectrum are: (1) Establish the diagnosis as clearly as possible or as clearly as seems necessary under the clinical circumstances (i.e. arthrocentesis with crystal analysis to establish diagnosis is not always necessary with reliable patients when septic joint seems highly unlikely). (2) Treat acute attacks with NSAIDs alone or perhaps steroids — or rarely IV colchicine under special circumstances. (3) DO NOT START ALLOPURINOL OR PROBENECID DURING AN ACUTE FLARE OF GOUT — IT MAY MAKE THE EPISODE WORSE. (4) The pattern of disease over time (frequency and severity of attacks) determines whether or not one decides to use an agent such as allopurinol, probenecid, or prophylactic colchicine chronically once a patient is over the acute attack — the mere presence of increased uric acid and a single or rare gouty attack would not usually require any other than the appropriate acute therapy. (5) The presence of visible tophi, uric acid renal calculi and destructive gouty arthritis nearly always warrant uric acid lowering therapy. ❒

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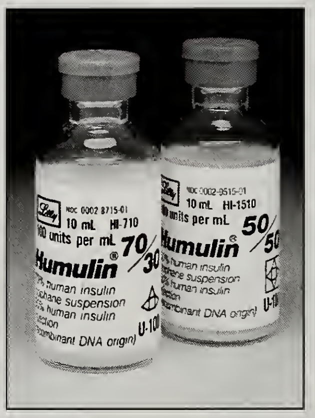

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RHEUMATOID ARTHRITIS

CLARENCE W. LEGERTON, III, M. D.*

INTRODUCTION

In the United States, joint pain is one of the most common complaints for which patients seek medical care. Similarly, rheumatoid arthritis (RA) represents one of the most prevalent diagnoses in this group of patients. Variously defined and depending on the population studied, RA is felt to afflict from 0.3-1.5% of the US adult population.[1]

Rheumatoid arthritis and its cousin lupus (systemic lupus erythematosus, SLE) serve as prototypes of autoimmune diseases. The explosion of knowledge detailing the workings of the immune system and its role in disease, as well as new treatment modalities that specifically target and modulate the immune response, all contribute to making this an exciting time for the study and management of the autoimmune diseases. While theories of pathogenesis make interesting food for thought, new advances in therapy allow the control of disabling joint inflammation more effectively than possible even a decade ago.

The purpose of this article is to review the practical management of rheumatoid arthritis by focusing on clinical aspects of the disease and current trends in therapy. Finally, current theories of pathogenesis and promising treatment modalities now under investigation will be discussed.

RHEUMATOID ARTHRITIS – A CLINICAL DIAGNOSIS

Despite the increased reliance on the laboratory throughout the field of medicine, most rheumatic diseases remain diagnoses based on clinical features. This principle certainly holds true for rheumatoid arthritis and cannot be overemphasized. Possibly resulting from the exposure of a genetically susceptible individual to an as-yet-unidentified antigen, rheumatoid arthritis is a chronic systemic inflammatory disease, manifested chiefly by a symmetrical polyarthritis of small joints.

Often overlooked, the systemic nature of rheumatoid arthritis is universally manifested by the occurrence of constitutional symptoms, caused by the release of inflammatory mediators such as interleukin-1, interleukin-6, and TNFα. Patients complain of severe fatigue, malaise, fever, weight loss, anorexia, and prolonged morning stiffness. Stiffness around involved joints reflects the accompanying synovial inflammation and is typically of at least one hour duration before the patient is as mobile as she will become for the day. Ofttimes patients relate having to perform certain maneuvers to work out the stiffness, such as waking earlier to have time to dress, or taking their medicine early and returning to bed for a while.

Joints most commonly involved include those of the hand, particularly the MCPs, PIPs, and wrists. The corresponding joints of the feet also may be symptomatic. Larger joints usually, but certainly not always, become involved subsequently in an additive pattern. Most patients note joint swelling if present and the difficulty lies in distinguishing the articular swelling from soft tissue edema, especially of the feet and ankles. Thus, symmetrical swelling of the small joints of the hands, wrists, or of the knees is the most reliable objective sign of RA. The inability to make a complete fist reliably indicates arthritis of the hand joints. Changes in the fit of a ring can be due to soft tissue edema, osteoarthritis, or true arthritis, but can be helpful if a history of an acute change in size at the knuckle is clearly obtained.

The history of onset of the arthritis can be

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indolent or explosive, ranging from a few days to months in duration. Polyarticular involvement occurs early, is roughly symmetrical, and aids in distinguishing between rheumatoid arthritis and other diseases which have oligoarticular, additive, asymmetrical, or large joint features.

PHYSICAL EXAMINATION

Not well taught in most medical schools, the musculoskeletal examination serves to "clinch" the diagnosis of rheumatoid arthritis by demonstrating objective synovial inflammation and proliferation in the appropriate joints as distinguished from non-inflammatory arthralgias (Figure 1). Proliferative synovitis, small effusions, and limited articular motion are important diagnostic clues that are easily overlooked. As discussed below, systemic manifestations, such as rheumatoid nodules, serositis, pulmonary involvement, or manifestations of vasculitis may be found. Importantly, the physical exam may yield evidence favoring another disease, with arthritis as a secondary feature.

LABORATORY EVALUATION

Of limited use in the diagnosis of rheumatoid arthritis, laboratory tests serve more of a role in searching for other causes of arthritis. Up to 30 percent of patients with rheumatoid arthritis will have a negative test for rheumatoid factor (RF). Similarly, the test is non-specific when positive, also occurring in infection (endocarditis, tuberculosis, syphilis, etc.), primary lung disease, as well as in other rheumatic diseases such as SLE, polyarticular gout, and cryoglobulinemia.

In addition to being non-specific, the erythrocyte sedimentation rate (ESR) increases with age and may approach one-half of the age without an identifiable cause.[2] Up to 25 percent of patients will have a positive ANA (as will seven to 10 percent of the "well" population) and this test plays no role in the diagnosis of rheumatoid arthritis. Radiographs of involved joints (a PA view of the hands and wrists on a single film is usually sufficient) are often diagnostically informative as the characteristic features of crystal disease, hemochromatosis, and psoriatic arthritis are distinctive. Radiographic findings include uniform joint space narrowing with subchondral osteoporosis relatively early in disease. Most articular damage on x-ray occurs within the first two years of disease. Erosions initially develop at the bare areas of intraarticular bone at the junction of articular cartilage and inflamed synovium (Figure 2). The most common sites are the ulnar styloid, carpal bones, and the heads of the metacarpal and proximal phalangeal bones. Late findings reflect articular destruction, diffuse osteoporosis, and subluxation resulting in ulnar

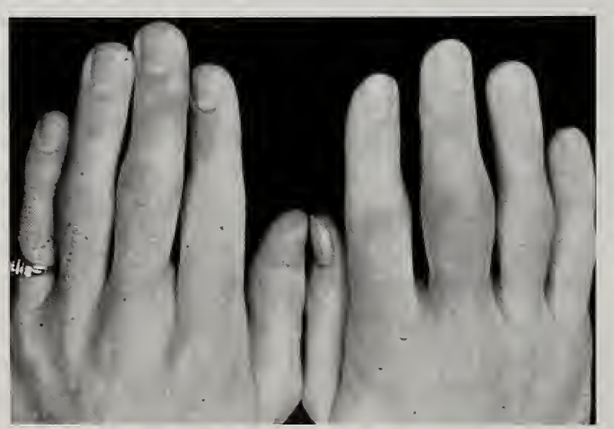

Figure 1: Symmetrical proliferative synovitis of proximal interphalangeal joints and metacarpophalangeal joints bilaterally.

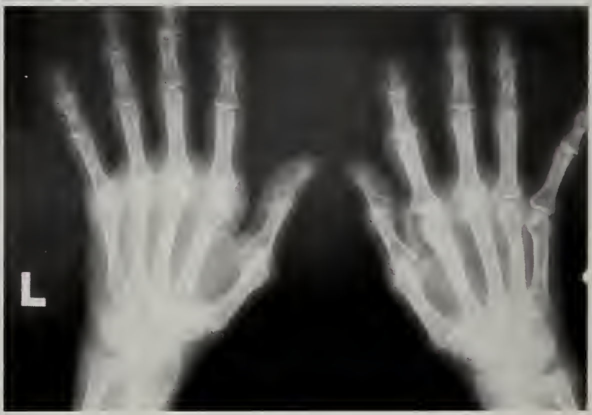

Figure 2: Radiograph of both hands demonstrating periarticular demineralization, joint space narrowing, and discrete erosions of the right ulnar styloid and radial head, and several proximal interphalangeal joints.

deviation and other deformities.

UNUSUAL FEATURES

Extraarticular manifestations can be divided into those that occur locally as opposed to those that reflect the systemic nature of rheumatoid arthritis. Of the local manifestations, cervical spine involvement typically occurs in patients with longstanding, destructive disease, but must be sought both on the history and the physical exam of each patient because of the severe complications that may result from C1-C2 instability. Even the mildest consideration of this condition should prompt radiographic evaluation, especially in patients undergoing surgical procedures requiring intubation (Figure 3). Tendinitis can occur virtually anywhere. Tendons passing over inflamed synovium rupture not infrequently, often involving the flexor and extensor tendons of the digits and requiring prompt surgical repair. Inflammation of tendon sheaths may result in nodules, such as "pump bumps" on the Achilles tendon or trigger fingers of the hand.

Nerve entrapment most commonly involves the median nerve at the wrist causing carpal tunnel syndrome. However, the ulnar nerve at the elbow and the plantar branches of the posterior tibial nerve also may be affected. Differentiation between nerve entrapment and neuropathy due to rheumatoid vasculitis is important because of their differing therapies.

Synovial cysts may occur in any inflamed synovium and result from increased intraarticular pressure. Commonly seen in the hand, the most important diagnostically is a Baker's cyst occurring at the knee. When these cysts rupture, patients present acutely with a swollen leg which mimics a deep venous thrombosis (DVT). The presence of a knee effusion, a Baker's cyst seen on ultrasound of the popliteal space, and the absence of a DVT on non-invasive Duplex scanning all confirm the diagnosis.

Systemic extraarticular manifestations are legion. Rheumatoid nodules are a well-known feature which may cause confusion when they occur in unusual locations. Muscular atrophy can be dramatic in onset. Rheumatoid

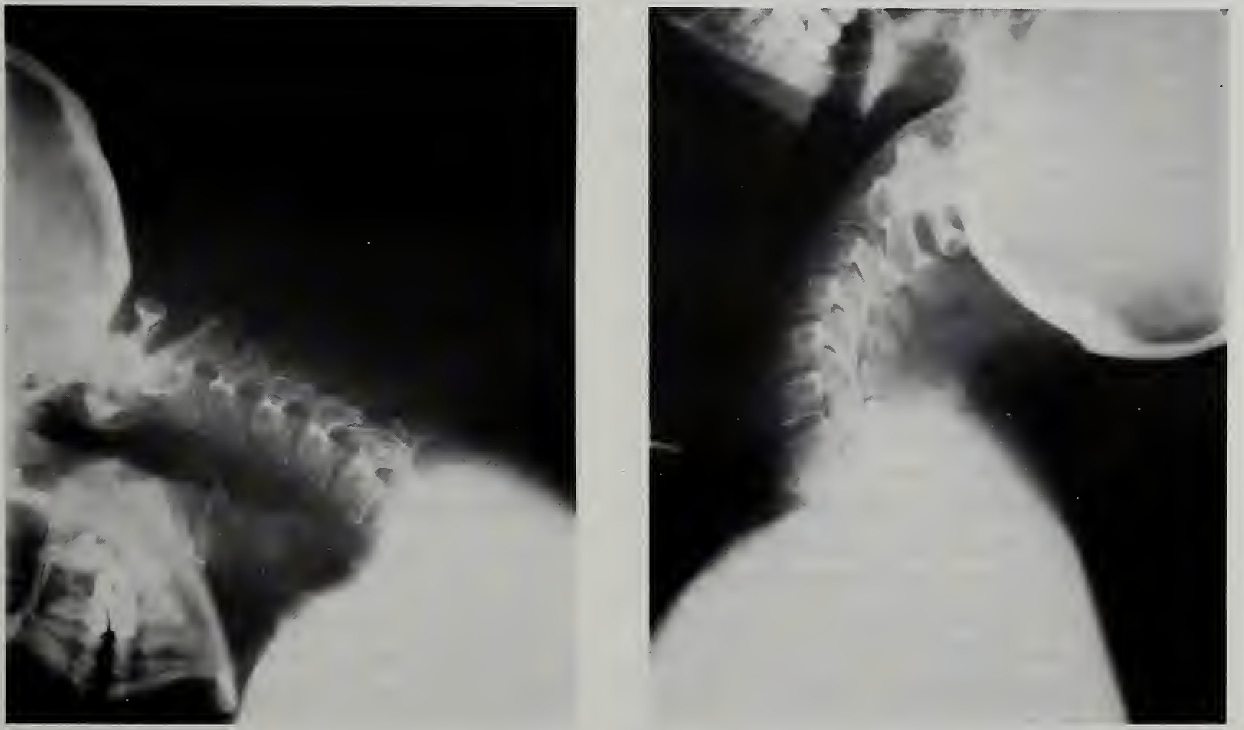

Figure 3 (a and b): Extension and flexion views of the cervical spine in a patient with RA. C1-C2 (atlanto-axial subluxation is demonstrated. In the extension view (a), the odontoid is immediately behind the anterior arch of C1. In the flexion view (b), the distance between the anterior arch and the odontoid increases to 12mm (normal less than 4 mm).

vasculitis can be widespread, causing skin ulcers, mononeuritis multiplex, or specific organ involvement such as scleritis. Renal involvement in this type of vasculitis is rare. Anemia, diffuse lymphadenopathy, splenomegaly, and Felty's syndrome are common features resulting from sustained inflammation. Symptoms seen in other autoimmune diseases include serositis and sicca syndrome, the latter affecting up to 20 percent of patients with rheumatoid arthritis. Osteopenia can result in disabling fractures and may be exacerbated by steroids or other therapy.

Any of a number of other organs may be affected. Pulmonary involvement ranges from parenchymal nodules to pleuritis with effusions and even includes interstitial disease. Cardiac complications are similarly diverse, including pericarditis (though tamponade is unusual), endocarditis (insufficiency, nodules, or valvulitis), and rarely myocarditis, arteritis, or arrhythmias. A common complication, ocular manifestations are often catastrophic and refractory, including scleritis, scleromalacia perforans, and corneal melts.

DIAGNOSTIC PITFALLS

The overdiagnosis of rheumatoid arthritis is common. In addition to a history consistent with rheumatoid arthritis, objective symmetrical arthritis of appropriate joints must be sustained for at least three months. Given the prevalence of joint pain as a presenting complaint, arthralgias are not sufficient for the diagnosis. Also, with the difficulties of obtaining employment and insurance for those with chronic diseases, the coding of rheumatoid arthritis should not be used prematurely. Some rheumatologists withhold the diagnosis of rheumatoid arthritis until their patients develop severe enough inflammation as to require second line drugs.

The most difficult task for evaluating patients with rheumatoid arthritis is the consideration of the many other diseases which present with synovitis as a predominant feature. Infections cause arthritis in a variety of ways. True septic arthritis, a medical emergency, is treated presumptively while awaiting cultures and is nearly always monoarticular. Gonococcal infection is the most frequently seen agent in young adults and is the prototype of a polyarticular arthritis with a migratory pattern. Non-gonococcal agents include staphylococci are the most common, followed by streptococcal species, and gram-negative bacilli, such as E coli or salmonella species. Transient arthritis frequently accompanies viral infections (hepatitis B and parvovirus among others) or even vaccines such as rubella. Tuberculous arthritis must be high in the differential of any monoarticular arthritis and may be indolent and chronic; this presentation can be mistaken for rheumatoid arthritis.

A host of arthritides are characterized by axial involvement, along with peripheral joint inflammation, absence of rheumatoid factor, a link with HLA-B27, and enthesopathy, or inflammation at the site of ligamentous insertion into bone (the enthesis). Importantly, these arthritides are asymmetrical and tend to favor larger joints of the lower extremity. Ankylosing spondylitis is the prototype of these spondyloarthropathies. Others exist, including Reiter's syndrome, which may present without the complete triad. Psoriatic arthritis may occur before or after the skin rash, may have a great deal of distal interphalangeal joint and nail involvement, and has characteristic changes on radiographs. Reactive arthritis refers to that arthritis reactive to distant infection, most often those in the gastrointestinal (GI) tract. Peripheral arthritis occurs as a well-known feature of inflammatory bowel disease. The development of arthritis after infection with portals of entry in the intestine or genitourinary tract is one of the strong pieces of evidence for an infectious antigen as the precipitant of arthritis.

Usually, the arthritis of SLE is not proliferative and destructive as seen in rheumatoid arthritis, but in early stages the two may be hard to distinguish. Complaints of pain are greater than the physical exam would suggest. The presence or absence of other features helps to distinguish these two diseases; serologies must be considered in the clinical context.

Severe or longstanding polyarticular gout is not infrequently diagnosed as rheumatoid arthritis, with tophi mistaken for rheumatoid nodules. The articular manifestations of both diseases appear similar in their advanced stages, but the nature of their onset is characteristically different. A detailed history of the nature of onset of arthritis is critical in any patient, even if this occurred a decade or more previously. So rarely do the two diseases exist simultaneously that their occurrence is reportable.[3] Up to 30 percent of patients with polyarticular gout have a positive rheumatoid factor, though usually of low titer, rendering this test of little use. The obvious differences in prognosis and therapy render this an important differential.

Two unusual subsets of rheumatoid arthritis deserve mention. A new syndrome called remitting seronegative symmetrical synovitis with pitting edema (RS_3PE) was described by McCarty et al in 1985.[4] Usually of acute and severe onset, this syndrome includes a symmetric arthritis accompanied by pitting edema, especially of the dorsum of the hand that may render the underlying synovitis difficult to detect. Resistant to NSAIDs, this syndrome often remits completely after three to 36 months. Adult onset Still's disease[5] presents as a febrile toxic patient with diffuse lymphadenopathy, splenomegaly, and an evanescent rash that is easily overlooked. The differential is usually one of acute infection or lymphoma and is, unfortunately, largely a diagnosis of exclusion. High doses of salicylates are often used as both a diagnostic and therapeutic challenge.

THERAPY

One of the most exciting and hotly debated topics in rheumatology today concerns the treatment of rheumatoid arthritis. The longstanding "pyramid" of therapy has been turned on its head. With the advent of new therapies that effectively suppress inflammation, the reinforced evidence of poor outcome despite therapy, and new evidence suggesting that joint damage occurs early in the course of disease, increasing numbers of rheumatologists advocate early aggressive therapy in the hope of delaying, if not preventing, joint destruction.

For the general internist or family practitioner, the prevention of disability means early consultation with a rheumatologist to devise a regimen that, along with standard modalities such as physical therapy, will suppress inflammation as completely as possible. Maintenance of patients on aspirin or NSAID therapy, though it may control symptoms, may well miss the "window of opportunity" to establish effective control of the disease process. Routinely, control will require a combination of several anti-inflammatory and even immunosuppressive agents.

Aspirin and non-steroidal anti-inflammatory drugs (NSAIDs): Increased awareness of the high rate of gastrointestinal side effects has somewhat dampened enthusiasm for these agents; however, they remain an important and frequently used therapy. Newer agents are promoted as having fewer adverse effects, but experience is limited. Simple measures are often effective in relieving symptoms, such as concomitant ingestion of food or antacids. H2-blocking agents in maintenance bedtime doses may be required chronically for dyspepsia and most likely aid in the prevention of duodenal ulcers. They should be taken separately from antacids. Misoprostol has a limited role to play in patients at high risk of recurrent gastric ulcers, but is generally ineffective at suppressing symptoms. Adverse effects of NSAIDs are dose-related, so the lowest effective dose is safest. After initiating therapy at anti-inflammatory doses, attempts to lower the dose once second-line agents take effect are reasonable, especially in elderly patients. Non-acetylated salicylates, such as salsalate, are sometimes effective in patients who might benefit from their lesser GI toxicity and their lack of inhibition of platelet function.

Gold: There has been much discussion of late questioning the efficacy of gold.[6,7] Though probably used in a smaller subgroup of patients than in the past, most rheumatologists still believe in the efficacy of chrysotherapy, both because of its safety (when tolerated) and its potentially remission-inducing effect. Specifically, I will often use gold injections as the initial second-line agent in the younger patient in whom the disease is of relatively recent onset. Limitations on its use include the necessity for frequent office and laboratory assessments. A recent metaanalysis of efficacy of second-line drugs[8] demonstrated the clinically-suspected lesser efficacy of oral gold and its use has declined.

Methotrexate: Low-dose weekly methotrexate currently enjoys more enthusiasm as a therapeutic advance than any other pharmacologic therapy. Growing evidence of its safety[9] and efficacy has resulted in more rheumatologists using it early in rheumatoid arthritis. While of low incidence, hepatic, marrow-suppressive and pulmonary toxicities require careful, routine monitoring. Pulmonary toxicity,[10] often called methotrexate lung, can be fatal; methotrexate should therefore be withheld for the duration of any pulmonary symptoms such as those occurring with a cold, bronchitis, or pneumonia. The patient must restrict alcohol usage or, preferably, eliminate it completely. Young women must not be pregnant and both men and women should practice birth control. The initiation of this drug should best be carried out in consultation with a rheumatologist.

Antimalarials: Chloroquine and hydroxychloraquine remain safe and adjunctive parts of our armamentarium. Though often of insufficient strength for single-agent control of inflammation, they are very effective in combination with other therapies. Hydroxychloroquine has found a role in conjunction with methotrexate as there is some evidence of protection against methotrexate-induced hepatotoxicity.[11] Semi-annual retinal exams are advised for toxicity screening.

Steroids: The use of low-dose steroids has been gaining favor for the same reasons that are driving more aggressive therapy. Though largely felt to be safe, the use of low-dose steroids (less than 7.5 mg of prednisone daily) is not without its detractors. The risk of osteoporosis, a feature of rheumatoid arthritis itself, is the major concern and all patients on long-term steroids should receive prophylaxis for bone loss.

Sulfasalazine (SASP): More widely used in Europe than in the United States, SASP has a role in the treatment of arthritis that extends beyond its efficacy in enteropathic arthritis. Clinical experience indicates that doses approaching three grams a day are required for efficacy, though many patients suffer GI discomfort at these doses. While not my first choice in classic rheumatoid arthritis, I tend to use it earlier if there are any features suggestive of B-27-related, reactive or enteropathic disease. With a low initial dose and slow, gradual increase being important for tolerance, efficacy may not be evident for months after reaching the target dose. Careful monitoring of bone marrow and hepatic function is important.

Cytotoxic Therapy: While the use of multidrug regimens, including methotrexate, offers relatively safe modes to control inflammation, true cytotoxic therapy is of more concern. However, with the realization that rheumatoid arthritis is more than simply a chronic disease and that patients suffer increased mortality, aggressive immunosuppressive therapy is occasionally indicated. Azathioprine is often chosen first, especially in fertile women, because it is felt to be less toxic than cyclophosphamide. However, both drugs can cause severe bone marrow suppression. The risk of secondary malignancy is frightening, though the incidence of this complication is unclear. The institution of these drugs should be restricted to those specialists familiar in their use with the risks and benefits discussed thoroughly with the patient.

CURRENT RESEARCH

Theories of pathogenesis that a genetic predisposition to rheumatoid arthritis exists has become increasingly clear and well-defined in the past decade. Twin studies demonstrate a number of autoimmune diseases which have a greatly increased concordance in monozygous over dizygous pairs.[11] An HLA gene, DR4, clearly confers an increased risk in RA. The nature of the inciting antigen or antigens remains completely elusive. Infectious agents have long been implicated, with EBV a leading favorite and pathogens such as parvovirus currently under study. New highly sensitive techniques such as the polymerase chain reaction (PCR) are being used to search for bacterial or viral genetic material in inflamed joints. In reactive arthritis, chlamydial and yersinial antigens have been found in involved joints, but nucleic acids have not been reproducibly isolated. The role of heat-shock proteins and superantigens in the pathogenesis of immune diseases is a book only currently in its first chapter. This story will continue to unfold.

FUTURE THERAPY

The development of new and specific immunomodulating agents promises not only to advance therapy, but also to further our understanding of pathogenesis of rheumatoid arthritis. These agents include cyclosporine A, cytokine inhibitors, growth factors, and monoclonal antibodies. Several monoclonal antibodies to cell surface antigens have been developed, some tagged with cell toxins. These promise to allow selective removal of certain cell populations of the immune system. For example, antibodies to CD4 (helper/inducer T-cells) and to CD5 are currently under study. CD5 is an HLA antigen found on a subset of T-cells, and also on some B cells that might be involved in the production of the rheumatoid factor antibody. One can see that the selective removal of these components of the immune system might both halt the inflammatory cascade and provide new insights into the role these cells play in the inflammatory response.

One animal model for RA involves the induction of sustained synovitis by injection of type II collagen which generates a strong T-cell and cytokine response. New information indicates that a synthetic peptide which blocks the binding of the arthritogenic collagen peptide to the Lewis rat T-cell receptor can both prevent and treat the experimentally induced arthritis. Implications for modulating the immune response to even an unidentified antigen are of importance to both vaccine development and therapy.[13]

CONCLUSION

Rheumatoid arthritis is a systemic inflammatory disease that remains a clinical diagnosis. An extensive differential must be considered before assigning a diagnosis. Knowledge of the limitations of the laboratory is essential. Current therapy has made a dramatic change from management of symptoms to aggressive control of inflammation using multiple potent pharmacologic agents much earlier in the course of disease than previously considered. ❒

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Editorials

RHEUMATOLOGY IN SOUTH CAROLINA

There have been many changes in the field of rheumatology in recent years. These include everything from a name change of our national organization from the American Rheumatism Association to the American College of Rheumatology to the widespread use of drugs such as methotrexate and azathioprine, once reserved for treating malignancies, to newly defined diseases such as Lyme Disease and better defined diseases such as fibromyalgia. Taken in toto, the rheumatic diseases account for many office visits to primary care physicians and, in the elderly, arthritis ranks as their number one complaint.[1] Considering all these changes and the impact of rheumatic diseases on the daily practice of medicine, this two-part series on rheumatology in South Carolina certainly seems apropos.

We are fortunate to have many fine rheumatologists in South Carolina, a number of whom have contributed to this special issue. This issue is not meant to be a comprehensive update of rheumatology but is, instead, a review of selected topics in rheumatology with an emphasis on diagnosis and management of these entities. The first of this two-part series begins with an introduction and an article on osteoarthritis of the knee by Dr. Walter Bonner. Dr. Bonner has had a tremendous impact on the development of the practice of rheumatology in South Carolina, and he shares with us, not only his perspective on rheumatology in South Carolina, but also his extensive experience and knowledge of this most common type of arthritis. Also in this issue are eloquent discussions of two other common diseases – gout and rheumatoid arthritis. Dr. Robert Boyd presents his approach to the patient with suspected gout by asking a series of questions that help the practitioner establish the diagnosis with a good degree of confidence and develop a management strategy with a minimum of risk to the patient and maximum satisfaction for the patient and the physician.

Dr. Clarence Legerton completes this issue with an excellent review of rheumatoid arthritis, a disease that often requires the coordinated efforts of the rheumatologist and the primary care physician to insure the best outcome for the patient. In his review, Dr. Legerton emphasizes the important clinical aspects of the disease as well as the differential diagnosis of inflammatory arthritis. He discusses the therapeutic options which have expanded in recent years and ends with a brief discussion of some experimental therapies which are on the horizon. In a future issue, fibromyalgia, systemic lupus, tendinitis/bursitis syndromes and Raynaud's phenomenon will be presented.

I would like to thank Dr. Charles Bryan, Editor of *The Journal*, for the opportunity to co-edit this series with Dr. Carwile LeRoy. I would also like to thank all the contributors for their outstanding efforts in preparing this special issue in rheumatology.

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On the Cover:

THE GOUT

Gillray's gruesomely graphic representation of gout is perhaps the most famous imaginative portrayal of a disease. It suggests the feel of the malady in a most expressive way. It is also an excellent illustration of Celsus' four signs of inflammation: Calor, Dolor, Rubor, and Tumor (fever, pain, redness, and swelling). Gout was a popular target of 18th century caricaturists since it was viewed as a punishment for gluttony and other material pleasures of a luxurious life. The wealthy, obese, sedentary sufferer from this disease was one of the chief sources of income for the medical practitioner of the day. Another anonymous caricature of the period has this quote from the visiting physician greeting the cook of the household: "Yes, my good friend, I never quit the house of my rich patients without shaking hands with the cook. I owe you much, for you confer great favours on me. Your skill in kickshaws and the ingenious art of poisoning enables us medical men to ride in our carriages; without your assistance we should all go on foot."

James Gillray was born in 1757 and apprenticed to a letter engraver. Bored with this work, he ran away with a troupe of strolling players. Later he settled in London and studied engraving at the Royal Academy. "The Gout" was published in 1799. From that time until 1811 he engraved nearly 1,200 caricatures, many of medical interest. A man of "intemperate habits," Gillray was seized with madness in 1811 and died in 1815. His many excellent engravings had rendered him universally famous.

Betty Newsom
The Waring Historical Library

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Auxiliary Page

PREPARING FOR TOMORROW

As I stand here before you today as the 71st President of the South Carolina Medical Association Auxiliary. I am reminded of a quote that means a great deal to me: "I shall pass this way but once — be there any goodness I may do — any kindness I can show. let me do it now — for I shall not pass this way again."

I am honored and I feel very privileged to be elected to serve you. I pledge my service with total commitment to the goals and strong purpose of this organization. I stand in the shadows of great leaders with hopes that my shadow may reflect upon those who will follow. As we have just celebrated our 70th year. may we see and hear what our heritage is saying to us – to love. to care. to listen and to act. Let us give thanks for yesterday. of those who had the visions. who planted and watered so that dreams could come true — I give thanks for today. For today we share words and beginnings. hopes. and expectations for the future as we begin to accomplish great things. for we must not only act. but also dream. not only plan. but also believe that we can help shape our tomorrow. When people reach out beyond their own world to serve others. they have a stronger bond to that cause.

I became committed 29 years ago by joining the Women's Auxiliary to the Student American Medical Association when I married my husband. Bill. during his junior year in medical school. He had already begun his service to organized medicine by acting as the student representative from MUSC to the Student American Medical Association. He continues to be active in organized medicine. as well as being a strong leader in our community. He has always been and will continue to be "The Wind Beneath My Wings."

In 1981. The Florence County Medical Auxiliary was born. We received much support and encouragement from the state leaders of the auxiliary. Starting out with only six members. we are now 94 members strong. I feel so very proud to be a part of a great auxiliary/alliance that sees the needs of the community and acts upon those needs.

In the next year and beyond. our spouses. as well as our society. will see many changes. will experience challenges and be faced with many issues. It has been said that the focal point in life is when opportunity and preparedness meet. As "physician spouses dedicated to the health of America." we have the opportunity. By preparing for tomorrow through our efforts to help shape the future of our spouses. our children. our families and our communities. we will achieve that focal point. In doing this. we should not forget

THE SHAPE OF TOMORROW........
DEPENDS ON OUR COMMITMENT TODAY.

Today the landscape has changed from training in medical schools all the way to how medicine is practiced. Although much has changed. our philosophy remains: that of supporting our spouses in their efforts. serving our families. and serving our communities.

We can help shape tomorrow in support of our spouses by committing to stay intelligently informed about the issues; by being involved, not just an onlooker, by speaking up for the profession of medicine when the opportunity arises— say what is right with medicine and health care! If we are going to prepare to meet these challenges, we must have the desire, dedication and determination to make a difference.....One Spouse At The Time

We can help shape our future and the future of our children, by recapturing some of the values of our past—and, regaining the structure of family and traditional values. Let us plant new seeds for the future by continuing to implement programs that will have an impact on our children, nurturing them by giving the gift of ourselves, our time and our love. We will reap the benefits when we can see how our efforts create a rainbow of hope for our children.

We can help shape tomorrow in support of our communities by the many scholarships that are provided by our state and local auxiliaries, as well as the financial support we maintain by our fundraising for the American Medical Association Education and Research Foundation (AMA-ERF).

Our national organization, American Medical Association Alliance, is responding to tomorrow's needs by challenging us to move with the times in new directions that will broaden our base of membership and involvement.

What will tomorrow have in store for us? What changes will the next century bring for us and our children? What challenges will confront the human family and organized medicine? Whatever we have to face, we will face it as an organization prepared and ready to meet the challenge.

It has been said that "Volunteerism is the Spirit of Life." Auxiliary has been made up of volunteers striving for a goal of promoting better health for all America. This spirit of volunteerism has been demonstrated at the county level where all the work is taking place.

We will strive to insure families and children, and our communities that their tomorrow will be in a healthier, happier and brighter world!!

"It is more blessed to give than to receive, for in giving we in fact share the gifts that have already been given to us"

— Acts 20:35

Betty Hester (Mrs. William A.)
President, SCMAA, 1993-1994

President's Page

PRESERVING WHAT IS BEST

This month, we are scheduled to witness the unveiling of President Clinton's plan for reforming the U.S. health care system. Mr. Clinton has begun sending up trial balloons to give us a sneak peek at what may be included in his plan but as of yet we have no specifics.

With minimal physician representation on Hillary Clinton's task force, the way in which physicians have provided care to patients will be drastically altered.

What do we do? As I see it, we have two choices. One option is to sit back and let the government, hospitals, or insurance companies manage our practices. This will result in more regulation, administration, and second-guessing of our medical decisions. The other option is to roll up our sleeves and go to work together to protect physician autonomy, fee-for-service medicine, and quality care for our patients.

The SCMA has chosen option #2 and is developing the Physicians Care Network (PCN). We are a national leader in this effort though other states are also beginning to organize similar physician-managed systems. To quote *Newsweek* (April 5, 1993), "...doctors who want to practice 'fee for service' medicine can still do so, and they'll be encouraged to form their own competing groups."

As physicians, we know what is best for our patients. To us they are individuals with faces and names, not screens on a computer. We must protect their interest and provide the care that only physicians can give. We can do this only by remaining in control of our practices and providing cost efficient quality care.

President Clinton has stated that he will allow states a good deal of flexibility in coordinating their health care delivery. By starting our network now, we are a step ahead of the game. I urge you to join the PCN by signing your contract when you receive it in the mail and returning it as soon as possible. It may well be our final chance to stand united — showing our commitment to reform as well as our determination to preserve what is best in our health care system. The PCN will provide us with a seat at the table and an opportunity for significant input into the final structure of health care reform on a state level. The SCMA staff has done an excellent job in researching and developing the PCN and is available to answer your questions.

E W Catalano MD

Edward W. Catalano, M. D.
President

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VOLUME 89
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NUMBER 6

Contents

Original Scientific Articles

273 **Vitamin D Deficiency Found in the Diet of the Elderly in South Carolina**
Cass Ryan, Ph. D., R. D., Judy Hsiao-Lung Lui, M. D.

279 **Management and Treatment of Complicated Cases of Basal Cell Carcinoma**
Richard C. Hagerty, M. D., C. Frederick Worsham, M. D., Leigh Phillips, M. D., Warren L. Gould, M. D., Robert T. Wall, M. D., Richard N. Fitzgerald, M. D.

Special Articles

293 **The Effect of a Physician Education Program on Hospital Length of Stay and Total Patient Charges**
Craig C. Johnson, M. P. H., M. S. P. H., Margaret Martin, Ph. D., Stephen M. Epstein, M. H. S., J. Diane Lee

302 **Training Family Physicians: A Case Study**
James B. Ebersole, M. D., David Keisler, M. D., Philip J. Michels, Ph. D, Carlton A. Hornung, Ph. D., M. P. H.

Editorial

307 **The Courage to Ration**
Charles S. Bryan, M. D.

Features

312 **Alliance Page**
308 **Letter to the Editor**
311 **On The Cover**
271 **President's Page**

Association

315 **CME Calendar**
309 **Gray Matter**
289 **SCMA Newsletter**

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VITAMIN D DEFICIENCY FOUND IN THE DIET OF THE ELDERLY IN SOUTH CAROLINA*

CASS RYAN, PH. D., R. D.**
JUDY HSIAO-LUNG LUI, M. D.

Vitamin D in the body regulates calcium and phosphorus metabolism for bone mineralization.[1] In children, vitamin D deficiency results in rickets; in adults, it leads to osteomalacia and osteoporosis. This is a problem particularly for the elderly, who already suffer age-related decrease in bone mass. A depletion of vitamin D can further increase the susceptibility to fractures, even before overt clinical symptoms of vitamin D deficiency become apparent. Studies in Great Britain and at a Boston hospital have shown that 30 to 40 percent of patients with hip fractures were deficient in vitamin D.[2] Recent studies have shown that greater than half of the healthy elderly population fail to receive even 50 percent of the Recommended Dietary Allowance (RDA) for vitamin D, and that vitamin D deficiency is more prevalent among females than males.[3] With an increase in our elderly population, there is a greater than proportional increase in the morbidity and mortality associated with fractures in the elderly.[4]

Vitamin D is a fat soluble vitamin found in dietary sources such as milk (a food fortified with vitamin D), fatty fish, fish liver oil (such as cod), eggs, and butter. Vitamin D occurs as cholecalciferol or ergocalciferol in foods and fortified food products. Because the chemical forms are generally not separately identified, the vitamin D content of foods and dietary intakes are given in micrograms (mcg) of cholecalciferol. 1 IU = .025 mcg of cholecalciferol. Man can also synthesize vitamin D in the skin. Solar ultraviolet B (UVB) radiation initiates vitamin D synthesis by the photoconversion of 7-dehydrocholesterol (7-DHC) to precholecalciferol (previtamin D3), which is then isomerized nonenzymatically to cholecalciferol over the subsequent 24 to 48 hours. Cholecalciferol is then transported to the liver via a specific vitamin D-binding protein, where it is enzymatically hydroxylated to calcifediol, also known as 25-hydroxyvitamin D ($25OHD_3$). Then $25OHD_3$ is transported to the kidney, again via the vitamin D-specific binding protein, where it undergoes further enzymatic hydroxylation to either 24,25-dihydroxycholecalciferol ($24,25\text{-}[OH]_2D_3$) or 1,25-dihydroxycholecalciferol ($1,25\text{-}[OH]_2D_3$), the most active form of Vitamin D, also known as calcitriol (See Figure 1).

---

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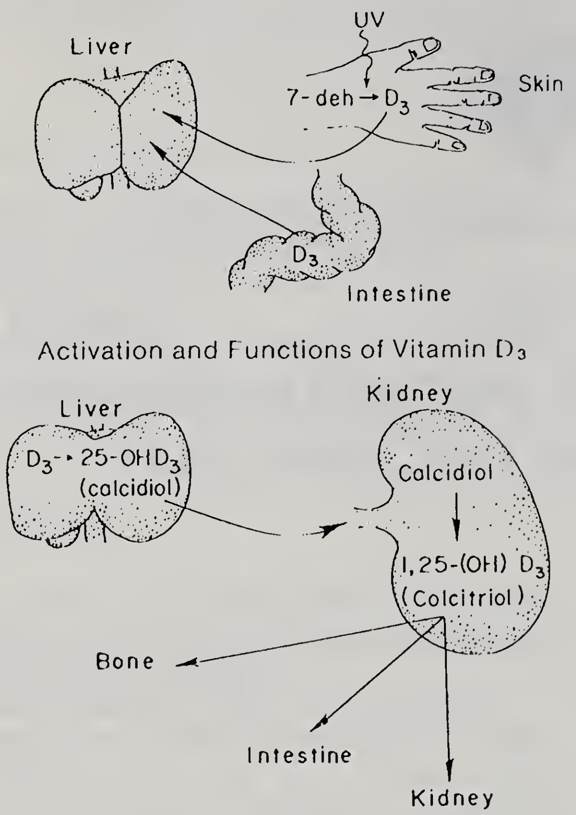

Figure 1. Vitamin D_3 Synthesis.

Studies have shown that many elderly persons have decreased blood levels of $25OHD_3$ and/or $1,25(OH)_2D_3$, and are in fact at increased risk of developing vitamin D deficiency.[5] The elderly are not as efficient at converting $25OHD_3$ to $1,25(OH)_2D_3$, thus the older adult may have normal serum levels of $25OHD_3$, but reduced levels of $1,25(OH)_2D_3$. In those patients where reduced conversion of $25OHD_3$ to $1,25(OH)_2D_3$ is suspected, serum levels of both should be obtained. The former will be normal or increased, while the latter will be subnormal. If this diagnosis is made, treatment may proceed with commercially available calcitrol.

The reasons they are at risk for a deficiency are multifactorial; including effects of intercurrent illnesses and medications, psychosocial and environmental factors, and age-related physiological effects, such as decreased absorption of vitamin D or impaired ability of the aging kidney to synthesize $1,25(OH)_2D_3$.

TABLE 1
POSSIBLE CAUSES OF VITAMIN D DEFICIENCY IN THE ELDERLY

- Inadequate intake of milk or other dietary sources of vitamin D.
- Lack of exposure to sunlight or wearing clothing or use of other light barriers.
- Malabsorption from:
    - laxative abuse – i.e., mineral oil which interferes with absorption
    - cholesterol lowering medication – i.e., cholestyramine
    - pancreatic insufficiency
    - biliary obstruction
    - resection of the small intestines
    - post gastrectomy
- Impaired hepatic 25 hydroxylation of vitamin D in cirrhosis.
- Drug interactions:
    - Diphenylhydantoin (Dilantin)
    - phenobarbital
- Impaired ability to convert $25OHD_3$ to $1,25\ (OH)_2D_3$ Vitamin D
- Impaired l-hydroxylation of vitamin D metabolites in chronic renal failure.

Older individuals are at risk for developing anorexia and intake of fewer than 1,000 calories/day is not rare among those over 65 years of age. Thus, dietary intake is often insufficient to allow the ingestion of the RDA of vitamin D, which is 5 mcg (200 IU) per day. Lactose intolerance is common in the elderly, and many older adults simply dislike the taste of milk. In addition, mild malabsorption of the fat soluble vitamin D occurs in older individuals (See Table 1).

Vitamin D status can be assessed by measuring serum concentrations of $25OHD_3$, the major circulating metabolite of vitamin D. However, as stated above, $25OHD_3$ levels may be normal in the elderly, but the actual levels of 1,25$(OH)_2D_3$ may be significantly reduced and should be measured. Despite the important role of vitamin D in calcium and phosphorus homeostasis, Goldray et al[2] showed no correlation between serum levels of 25OHD_3 and calcium and/or phosphorus levels. Nor was there a correlation between serum levels of 25OHD_3 and other biochemical parameters routinely measured, e.g., alkaline phosphatase, and albumin. Therefore, in order to confirm a vitamin D deficiency in the elderly,it is necessary to measure serum 1,25$(OH)_2D_3$.

Studies have shown that supplementation of vitamin D in deficient elderly persons can improve bone mineralization and decrease the risk of fractures.[6,7] Administration of modest (5 mcg or 200 IU) doses of vitamin D_3 is sufficient to increase serum 25OHD_3 levels to normal or higher than normal values and raise circulating 1,25$(OH)_2D_3$ levels. A dosage of 5 mcg/day may be adequate for the majority of healthy adults. Elderly persons, who are at risk for vitamin D deficiency, may require a higher dosage. The Food and Nutrition Board estimates that a daily dosage of 10 mcg of vitamin D or 400 IU is safe for the elderly and does not incur the risk of toxicity.[8] It is prudent to remember that vitamin D is potentially toxic in excessive amounts. Adverse effects include loss of appetite, visual disturbances, deposits of calcium in vital organs, hypercalcemia, and possible nephrolithiasis and impairment of renal function.[9] Physicians, as well as their patients, should be cautioned against overzealous supplementation.

Cutaneous synthesis remains an important source of vitamin D as milk is the only vitamin D-fortified food, and not all vitamin pills contain vitamin D in the active form. Many studies have shown that serum concentrations of 25OHD_3 vary seasonally in people with sun exposure,[10] with levels typically higher in the summer than in the winter. This seasonal difference reflects the changing exposure to sunlight based on temporal, geographical, environmental, and personal factors. The time of day and the time of year determine the intensity of solar radiation that is directed upon the surface of the earth, whereas longitude and latitude influence the angle through which the sun's rays pass through the atmosphere; altitude determines the degree to which UVB is attenuated by atmospheric scattering. Cloud coverage and atmospheric pollution affect the extent to which sunlight is blocked or filtered. It has been demonstrated that 30 minutes spent outdoors each day can lead to a substantial increase in serum 25OHD_3 levels in elderly persons which has significant effects upon other indices of calcium metabolism.[11]

Unlike exogenous supplementation of vitamin D, there is no risk of hypervitaminosis from prolonged sun exposure. Apparently the body has a natural protection against vitamin D toxicity from cutaneous synthesis in that a 15 percent maximum photoconversion of 7-DHC to previtamin D_3 occurs. With prolonged exposure, alternative light-catalyzed reactions occur and result in the formation of lumisterol and tachysterol which are less active metabolites of vitamin D. Therefore, "sun therapy" appears to be a safe and inexpensive adjunct to the treatment of vitamin D deficiency and the prevention of osteomalacia and consequent fractures in elderly populations. Personal factors that affect cutaneous synthesis of vitamin D include age, skin pigmentation, use of sunscreens, area of skin exposed versus that covered by clothing, type of fabric or clothing worn, and most importantly, the desire and ability to spend time outdoors, as well as the duration of sun exposure. There is evidence that aging decreases the capacity of the skin to produce vitamin D_3 and impairs the ability of the kidney to produce 1,25$(OH)_2D_3$.[11]

UVB radiation is blocked, or absorbed, by conventional window glass, and it is not a significant part of the spectrum of indoor lighting. Incandescent lights emit none, and the small amounts emitted by conventional fluorescent lights are mostly absorbed by the reflectors and/or diffusers in the lighting fixtures. Thus, the transmission of UVB radiation to skin must occur outdoors. This can be problematic in the elderly are often housebound and limited in mobility and rarely venture outdoors to benefit from sun exposure. They often bundle themselves up and leave little skin uncovered even when outside. They may also use sunscreen lotions to protect themselves from developing skin cancer. The rays which sunscreens block are necessary for cutaneous synthesis of vitamin D. Melanin, a skin pigment, is a natural absorber of UVB radiation and reduces the amount of UVB radiation available for photoconversion of 7-DHC to previtamin D_3. Consequently, individuals with a darker pigmented skin require a longer duration of sun exposure for cutaneous synthesis of vitamin D than those with fairer pigmented skin.

Seasonal variations in serum $25OHD_3$ levels caused by sunlight exposure are greatest in independent-living individuals not limited in mobility, and decline in magnitude as mobility decreases. Negligible synthesis of vitamin D occurs by photoconversion during the winter and levels of $25OHD_3$ depend upon the previous summer level. Seasonal changes of serum $25OHD_3$ may be so affected that levels bordering deficiency in the summer may plummet to levels associated with osteomalacia during the winter and spring in northern countries. Fortunately, the greatest improvement in serum 250HD3 levels in response to sun exposure occurs in individuals who are vitamin D deficient .

METHODOLOGY

The South Carolina Department of Health and Environmental Control conducted a statewide Nutrition Survey with the purpose of establishing a profile of nutritional knowledge, dietary practices, and food consumption among a representative of SC adults.

The total sample of 1,088 adults was drawn from the Carolina Health Survey. A multistage probability sample plan was used to insure that the sample would be representative of the state. There were 869 respondents who completed all parts of the Nutrition Survey.

The survey included four major components: (1) Anthropometric of height, weight, arm circumference, and triceps fatfold thickness, (2) Assessment of food consumption and dietary practices using a 24-hour diet recall, (3) Assessment of selected cognitive, affective, and behavioral characteristics, and (4) Collection of a sample of a household water supply to allow determination of the sodium content of the drinking water.

A secondary analysis of the data was conducted on only the older adult segment of the population. A total of 293 people in the sample were 55 years of age or older. The 24-hour food recalls were analyzed for total calcium and vitamin D consumed. A breakdown of the data by age, sex, and race is shown in Table 2. No questions in the original survey

TABLE 2
PERCENTAGE OF RDA CONSUMED FOR CALCIUM AND VITAMIN D IN ADULTS OVER THE AGE OF 55 YEARS IN SOUTH CAROLINA

Adults ≤ 55 Years of Age		**Calcium* (% of RDA)**	**Vitamin D** (% of RDA)**
White Males	N=92	95	69
White Females	N=24	67	37
Black Males	N=146	65	35
Black Females	N=31	62	39
Total = 293			

* RDA for Calcium is 800 mg/day
**RDA for Vitamin D is 5 mcg/day

addressed the exposure to the sun. Therefore, no analysis of the data on sun exposure was attainable. The survey did not include any laboratory analysis of blood, therefore, serum vitamin D levels were not available for this study.

RESULTS

The consumptions of vitamin D by the elderly in South Carolina is significantly less the RDA. The percentage of RDA of vitamin D consumed by women (both white and black), and black men was 35 to 39 percent. Vitamin D consumed by white men, while considerably higher, was only 69 percent of the RDA. Clearly, vitamin D consumption deficiency is endemic among the elderly in SC.

DISCUSSION

The segment of the population at greatest risk for vitamin D deficiency are the frail, elderly persons with limited mobility who are housebound or institutionalized. Vitamin D is essential for the proper functioning of tissues other than bone. For example, a deficiency in vitamin D can cause myopathy[10] which could further compromise the mobility of the elderly and increase the risk of falling with consequent injury. Additionally, active metabolites of vitamin D modulate cell proliferation and differentiation, especially in the immunological, hematological, and skin systems. Vitamin D deficiency can cause a variety of pathological processes, and the fact that this deficiency state is prevalent in a significant majority of the elderly population dictates that it is a problem that physicians and other health care professionals need to address and develop effective programs of prevention and treatment. "Sun therapy" is not practical for those who are frail or institutionalized. Drinking more milk is not as easy to do as it is to say, since lactose intolerance produces adverse gastrointestinal problems. Physicians might suggest lactose intolerant patients trying the milk already treated with lactose (i.e., Lactaid or Dairy Ease) or the milk treated with acidophilus bacteria (i.e., Sweet Acidophilus or Good All Over). Some yogurts have active culture which undergoes partial fermentation of lactose. Using alternatives to conventional dairy products may enable the vitamin D deficient person to significantly increase their intake of vitamin D as well as calcium. A supplement of 5 mcg/day of vitamin D may be the most practical, economical and predictable way to correct vitamin D deficiency in the elderly. Vitamin D supplementation must be tailored to the specific problems of each patient. High potency ergocalciferol preparations are available in a liquid form and can be diluted in vegetable oil for dispensing. Liquid forms of vitamin D should be used in patients with vitamin D rickets because a precise dose can be administered. Patients with malabsorption problems may not respond to vitamin D compounds. Patients with renal osteodystrophy or hypoparathyroidism should be treated with calcitriol (Rocaltrol). Patients with osteomalacia, due to primary vitamin D deficiency, respond well to small daily supplements of ergocalciferol (5 mcg or 200 IU) and calcium (1 g).

SUMMARY

Dietary intake of vitamin D was assessed from a 24-hour food recall collected from 293 independent living adults 55 years of age or older who participated in the South Carolina Nutrition Survey. Mean vitamin D intake was only 46 percent of the RDA.

The data in this study indicated that insufficient dietary intake of vitamin D is prevalent among older South Carolinians. Possible methods to correct this include: increased exposure to the sun, increased intake of food sources containing this nutrient or prescribing a vitamin D supplement. ❐

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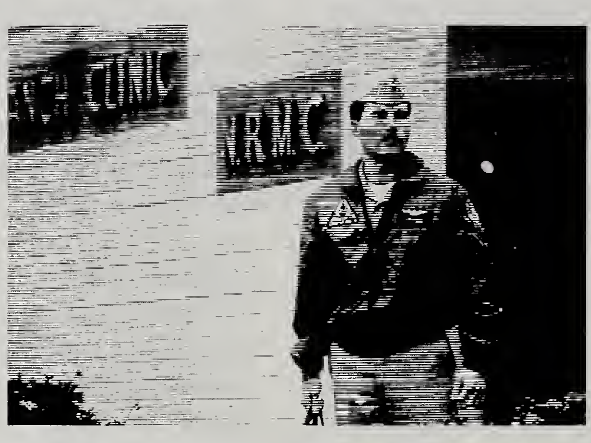

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MANAGEMENT AND TREATMENT OF COMPLICATED CASES OF BASAL CELL CARCINOMA*

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LEIGH PHILLIPS, M. D.
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INTRODUCTION

Although basal cell carcinomas can be successfully treated with a number of modalities including electro-desiccation, radiation, cyrosurgery, and others, surgical excision with microscopic control has become the method of choice. The success rate is extremely high with cure rates of 85 to 95 percent.[1-7]

Occasionally basal cell cancers cannot be managed by the usual techniques because of the local extent of the disease. Four cases and their management are presented and a general approach to these difficult problems are outlined.

CASE REPORTS

Case 1: V. W. is a 63-year-old white female who previously was treated for a basal cell cancer on the dorsum of her nose in 1985. The lesion was excised and the defect reconstructed with a nasolabial flap. Frozen sections by conventional methods were performed at the time of surgery and all margins were noted to be clear. The patient first presented to us in 1987 when she was found to have basal cell cancer on the dorsum of her nose at the base of the nasolabial flap. This lesion was excised with frozen section margins utilizing the P.I.T.E. method. The infraorbital nerve was found to be involved and could not be excised with a clear margin. Skip areas of cancer were found along the nerve sheath. Because of this, the patient underwent postoperative radiation therapy receiving 6,000 cGy (rads). There is no clinical evidence of disease at five-year follow-up, CT scan show no change.

Case 2: J. H. is a 62-year-old white male with a history of recurrent basal cell carcinomas beginning with a skin cancer on the lobule of his right ear in 1970. He also developed basal cell cancers of the skin of his shoulders and face. In 1982, the patient underwent excision and grafting of multiple basal cell cancers of the skin of his face and scalp. A left temporal forehead lesion extended down to the bone for which a full thickness skin graft was applied. In 1984, he underwent excision of new primary lesions of his left forehead and surgical excision of recurrent tumor at the previous operative site with reconstruction consisting of pedicled scalp flap rotated from his left forehead. A split thickness skin graft was applied to the donor sight. He first presented to us in 1988 when he was found to have recurrent tumor in the left temporal area. The area of recurrence was excised with the P.I.T.E. method. It showed the tumor to extend through the frontal bone. C.T. scan showed no involvement of the brain itself. The patient was taken back to the operating room where he underwent resection of the involved skull and reconstruction of the defect with a latissimum dorsi muscle free flap and vein grafts. Biopsies taken at that time showed the dura to be contaminated with basal cell carcinoma. The permanent pathology report showed this to be basal cell cancer. The patient underwent postoperative irradiation to a total of 6,120 cGy. The patient is clinically free of tumor four years later. Follow-up CT scans have at yearly intervals show no change.

---

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Case 3: E. P. is a 63-year old white male with a history of multiple facial basal cell cancers. In 1982 a lesion of the left temporal area had been excised and skin grafted. The patient now presents with progressing facial nerve paralysis. The recurrent basal cell carcinoma was excised with total parotidectomy and sacrifice of the facial nerve. The external carotid artery invaded with tumor was resected. The proximal margin of the facial nerve at the stylomastoid foramen was positive for tumor on frozen section, but it was felt worthwhile to reconstruct the facial nerve with sural nerve grafts. Biopsies taken at the time of surgery did not reveal an aggressive histology of the basal cell carcinoma. Final report showed the cancer to be basosquamous. The patient had 5,000 cGys of postoperative radiology. inal report showed the cancer to be basosquamous. The patient is clinically free of tumor four years later. Follow-up CT scan at two years shows no evidence of reoccurrence.

Case 4: R. K. is an 81-year-old white female who had a basal cell carcinoma removed from her left eyelid 25 years ago. A new lesion appeared eight years ago and progressed in and around the left orbit with involvement of the frontal and maxillary sinuses. Preoperatively she received three cycles of neoadjuvant chemotherapy with Carboplatin and 5-Flourouracil. The patient underwent resection of this cancer with exenteration of the orbit and wide excision and closure with multiple flaps. The margins of the skin were evaluated intraoperatively using the P.I.T.E. technique and were negative.

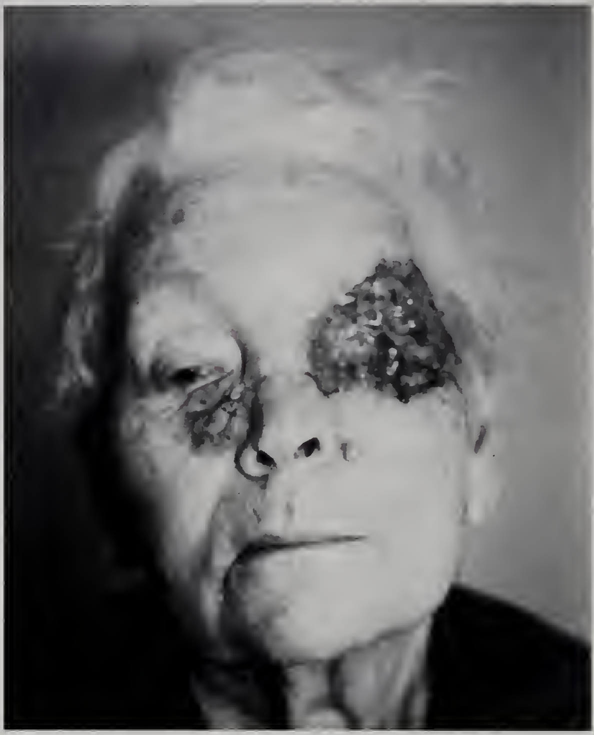

Illustration 1. Case 4: An 80-year-old white female with extensive basal cell cancer involving the left orbit.

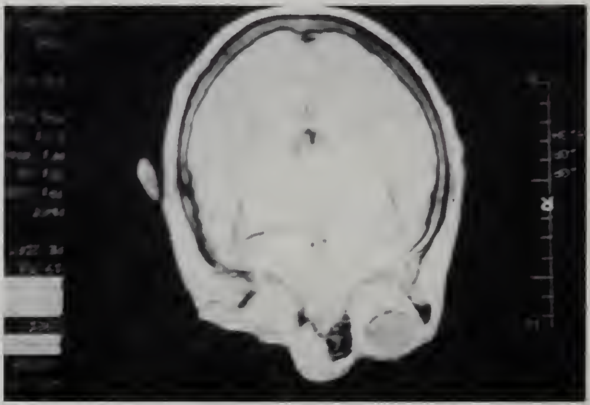

Illustration 2. CT Scan showing the erosion of the tumor through the orbit.

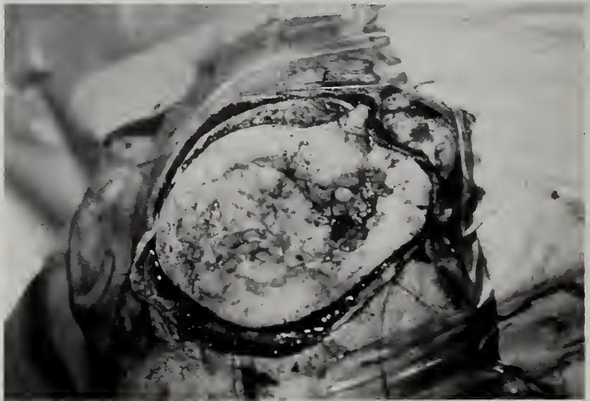

Illustration 3. Intraoperative photograph of patient with the margins of the tumor excised.

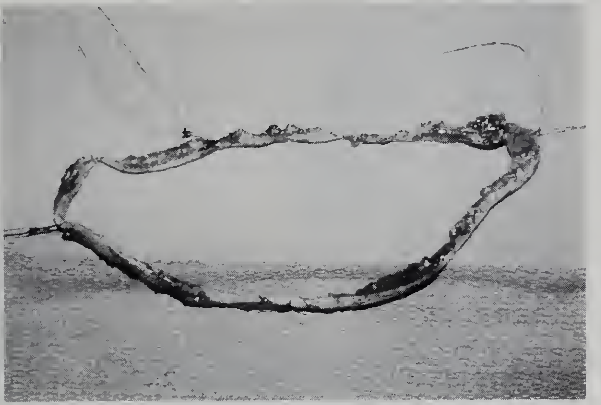

Illustration 4. 2 mm width of circular margin submitted to Pathology for evaluation of surface extension of tumor (P.I.T.E. technique for frozen section control of superficial margins).

Permanent pathology report showed this to be now a squamous cell cancer. She received 6,300 cGy post operatively. Clinically she is free of tumor two years postoperatively. Yearly is seems to show interval changes.

FINDINGS

We have found the P.I.T.E. techniques very useful for the control of basal cell cancers in strategic areas.[3,4] The majority of cases can be successfully managed when the treatment is rendered early. Occasionally, we are challenged with the management of basal cell cancer that cannot be managed by normal techniques because of aggressive local disease which can include bone and nerve erosion. We are presently implementing the following protocol: (l) Biopsies are performed to confirm the clinical diagnosis, assess histologic aggressiveness of tumor, and grossly map the extent of the tumor along the skin's surface. (2) Appropriate scans are obtained to evaluate the extent of the local invasion of the tumor. This may include an MRI and CT scan. (3) Metastatic work-up including chest x-ray and liver enzyme analysis are used to evaluate the distal spread in aggressive tumors when appropriate. (4) Radiation and chemotherapy options are reviewed preoperatively. (5) The operative technique: [a] peripheral margins are ascertained using the P.I.T.E. technique,[3,4] [b] the deep margins are taken in areas that bone is not involved, [c]

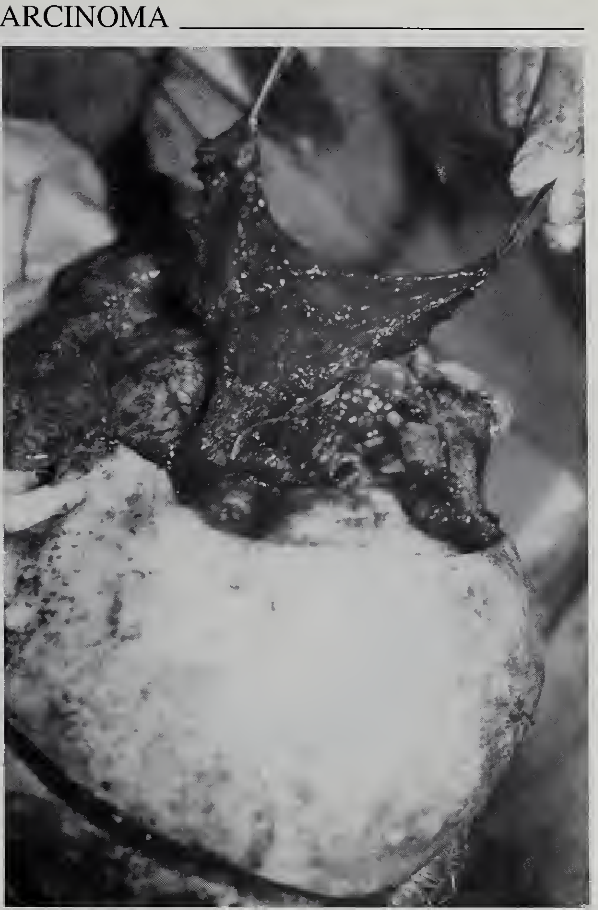

Illustration 5. Intraoperative photograph showing the temporalis muscle and fascia being used for reconstruction of the orbit.

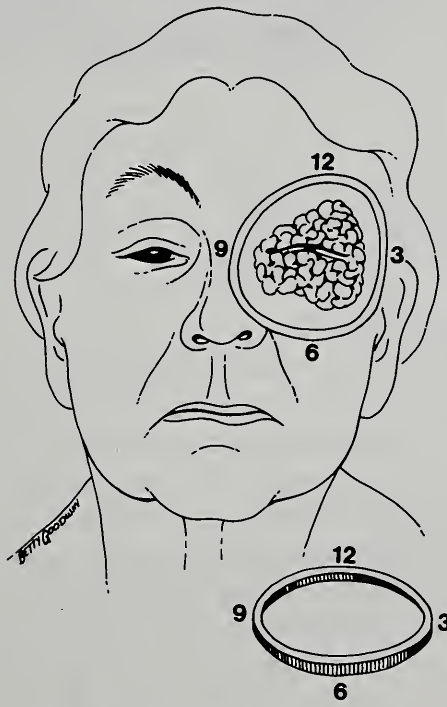

Illustration 6. Line drawing of P.I.T.E. technique for margins of tumor.

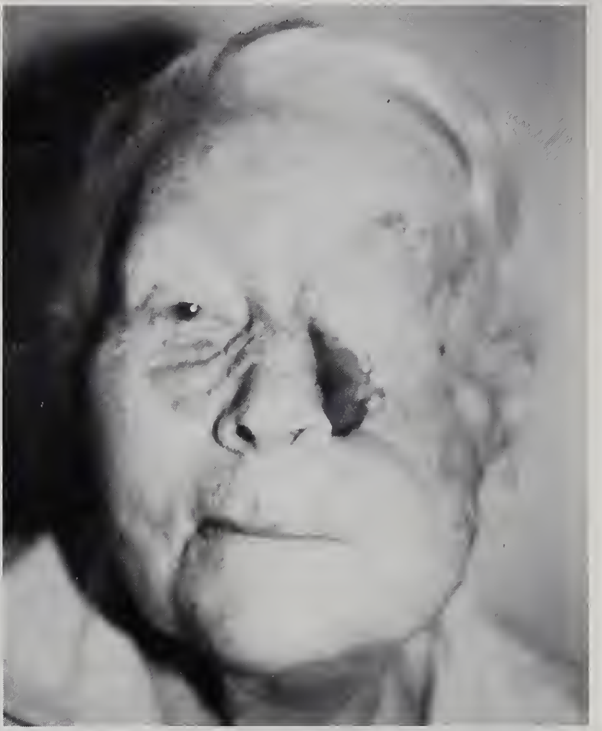

Illustration 7. Patient six months after the procedure and after radiation treatment showing stable wound, AP projection.

proximal nerve endings are submitted for frozen section for margins, [d] bone margins are assessed clinically, [e] every attempt is made to leave the cranial vault intact, [f] reconstruction is dictated by the defect. Postoperative radiation with or without chemotherapy as indicated are dictated when there is deep involvement. CT scans indicated at yearly intervals may be the follow-up in these four cases from two to five years. In using this approach, we have yet to have recurrence in these difficult cases.

DISCUSSION

Basal cell carcinomas are usually slow growing, rarely invasive, rarely metastasize, and are usually cured by conventional techniques including surgical excision, currettage and irradiation.[8,9] Why certain basal cell cancers are so aggressive while the great majority are not is unclear. Certainly host tumor resistance, exposure to ultraviolet light, and radiation exposure affect the outcome. Histologically certain basal cell cancers can be predicted to have an aggressive course. Lesions with an irregularity in the peripheral palisade layer have a higher incidence of recurrence and should alert the treating physician to be more aggressive with the initial treatment.[10]

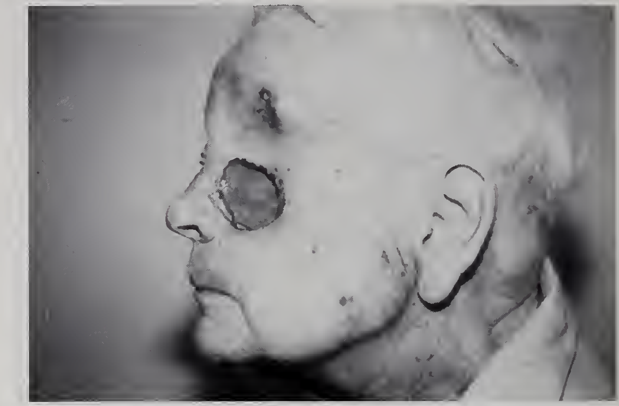

Illustration 8. Lateral projection of same patient six months after the procedure with stable wound.

One should also be aware that certain anatomical locations are more prone to recurrence of basal cell carcinomas and care should be taken to insure adequate margins.

Four cases are presented that demonstrate that basal cell cancer can be extremely aggressive. If alerted to this, potential techniques are now available for aggressive surgical excision and immediate reconstruction. Use of free flap reconstruction, musculocutaneous flap reconstruction or adjacent tissue transfer, including nerve grafting, can rehabilitate the patient much more rapidly. Coordination with the pathologist in alerting the treating physician of the aggressive appearance of the tumor can influence the treatment and ultimate outcome. Certainly, radiation may be necessary when the tumors are incompletely removed and the radiation therapist can be of major assistance in the patient's total care.[11] he role of chemotherapy in the management of locally extensive basal cell carcinoma is not settled. There is increasing experience with the use of Platinum-based chemotherapy in this setting. The preliminary evidence suggests that such therapy can result in a high complete response rate and may result in an improved outcome.[12] Unfortunately there are no good methods to evaluate bone involvement using frozen sections. When bone is invaded, the tumor is no longer confined locally.

CONCLUSION

Basal cell cancers can be lethal. With better techniques now available for control of margins of basal cell cancers, tumor recurrence rates will decrease. Extensive surgery combined with modern reconstructive techniques can assist to rehabilitate these patients quickly. Adjunctive postoperative radiotherapy and chemotherapy may be indicated in certain patients. ❐

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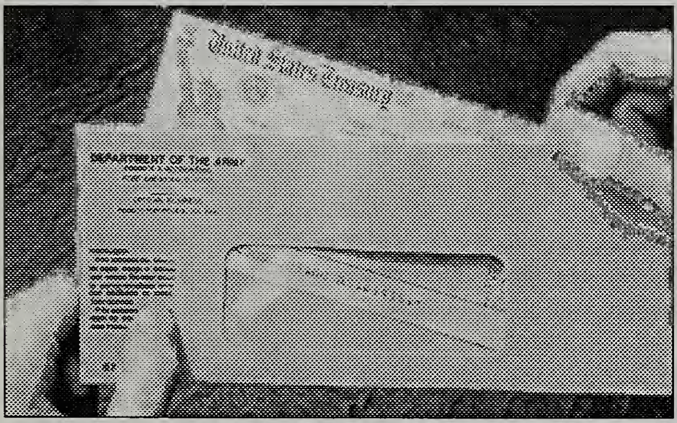

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THE EFFECT OF A PHYSICIAN EDUCATION PROGRAM ON HOSPITAL LENGTH OF STAY AND TOTAL PATIENT CHARGES*

CRAIG C. JOHNSON, M. P. H., M. S. P. H.**
MARGARET MARTIN, PH. D.
STEPHEN M. EPSTEIN, M. H. S.
J. DIANE LEE

Predictions that health care costs will exceed 17 percent of the GNP by the end of the 1990's have produced powerful incentives for meaningful changes in the efficiency of health care delivery systems, especially those found in acute-care hospital settings. A number of methods have been proposed to accomplish this including economic credentialling of physicians; medical staff would be granted privileges after review of their financial efficiency in terms of utilization of hospital resources in addition to measures of clinical outcome. It is essential to realize the physician is the "gatekeeper" of expensive medical resources. Physicians receive approximately 20 percent of health care dollars, but physician decisions create 80 percent of the costs of medical care.[1] To effect significant changes in the use of expensive medical resources while preserving optimal outcomes for patients it has been proposed the modification of physician behavior is essential for success.

At Anderson Memorial Hospital a physician education system was developed capable of producing hundreds of thousands of dollars in annual savings in the treatment of but just one common admitting disorder: pneumonia. It has been possible to demonstrate savings of similar magnitude for a number of other common disorders which often account for large numbers of in-patient admissions and financial losses from adjustments to prospective payments.

Wachtel[2] reported success with a patient-management protocol designed by a group of internists for the management of patients with stroke, pneumonia, chest pain, and Gl hemorrhage. He reported a drop in utilization (as expressed in charges) of EKGs (34.8%), x-rays (15.4%), lab tests (20.4%), and drugs (11.4%). The physicians within the study served as their own controls by virtue of using as control patients, those admitted by the same physicians with the same diagnoses at the same time of the year as those treated using the management protocol.

Several authors have reported some measure of success with providing physicians information about the cost of services at the time of ordering. Cummings[3] described a study where 36 second and third year residents and 23 clinical faculty were asked to review four case studies, each describing ambiguous symptoms and to indicate on an attached order form the tests they would order for each patient. Physicians randomly assigned to the "experimental" group received a test order form on which the price of each test was provided. The control group was given the same order form without pricing information. Cummings found that physicians ordering tests, when provided pricing information, ordered total tests costing 31.1% less than those ordered by physicians not provided with pricing information.

James[4] reports that it is not directly possible to determine if inter-physician variation in use of resources is appropriate or not. He provided blinded study results to hospitals and

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physicians and physicians to act on as they saw fit. He reported very high inter-physician variation in resource utilization in every clinical area for patients receiving Transurethral Prostatectomy. The only action taken after the initial study was to share confidentially with physicians this variation data and nine months later to make an assessment to determine if any impact was made on resource utilization. Average Length of Stay (LOS), as but one measure of utilization, dropped 37 percent from 4.40 days to 2.83 days. James states a major CQI (Continuous Quality Improvement) precept is that 85 to 90 percent of individuals pursue high quality work as a personal value, and it is only necessary to supply data and training. He states the percentage is probably higher in physicians. Lamass found that the publication of definitive study results in and of itself was sufficient to change physician behavior in terms of drug and test ordering, confirming that physicians are interested in doing excellent work and will read major journals to stay clinically current.

MacStravic[6] states there are four primary techniques hospitals can utilize to improve their market positions including: (1) recruitment and retention strategies, (2) peer pressure, (3) education and information programs, and (4) incentives. MacStravic proposes peer review programs in hospitals as well as in medical or specialty societies may help persuade physicians to modify their use of services. He suggests hospitals can assist physicians by conducting economic grand rounds, developing committees to study and communicate cost data to physicians, and providing information on alternatives to hospitalization. Physicians can be given an incentive to be efficient by linking planned expenditures to hospital financial performance. MacStravic proposes hospitals and medical staff might be merged into a single corporation.

A goal at Anderson Memorial Hospital is to reduce the use of expensive acute-care hospital resources while improving patient outcomes. Anderson Memorial Hospital embraces the precept cited by James that the vast majority of physicians, including those practicing in Anderson, see quality work as a personal value and are only in need of data and training. The methodology developed at Anderson promotes changes in physician behavior (resource utilization) that result in reduced patient charges, prospective adjustments (losses) AND improved outcome for patients. The physicians are given information of a financial nature along with detailed clinical information. Physicians are interested in how their practice of medicine compares to their peers with their peers being defined as those of like specialty practicing in the same hospital treating an equivalent case mix of patients. Providing physicians with detailed financial and clinical information about their own practice and providing equivalent information for their specialty and the hospital as a whole may be informative and motivating in terms of behavioral change.

Physicians are besieged by many pressures, and at Anderson Memorial Hospital it is quite important to the administrative and clinical leadership that any information system or clinical assessment methodologies be viewed as education resources for the benefit of physicians and not as potentially punitive resources to give the hospital power over physicians. The leadership at Anderson Hospital recognizes the need for a harmonious co-operative dynamic between the medical staff and the hospital and makes it a point at any medical staff meeting to reinforce the view of the in-house evaluation methodology being only an educational resource for their benefit without any other uses intended by the medical or administrative leadership of the hospital. The nature of the educational process described here is such that the important objectives of good medicine at lower cost while improving clinical outcomes for patients can be achieved.

METHODS

General Educational Process

The educational process began with the design of narrative and graphic reports based on peer groupings for distribution to physi-

FIGURE 1. Education Time Table

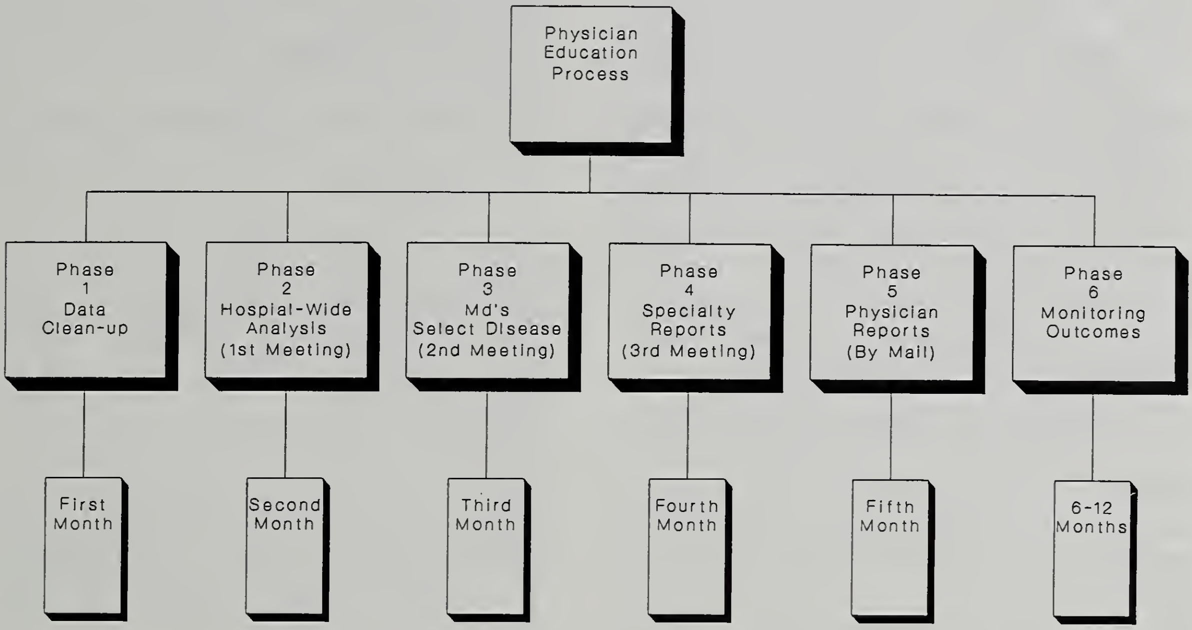
Physician Education Process
Phase 1 Data Clean-up
Phase 2 Hospial-Wide Analysis (1st Meeting)
Phase 3 Md's Select Disease (2nd Meeting)
Phase 4 Specialty Reports (3rd Meeting)
Phase 5 Physician Reports (By Mail)
Phase 6 Monitoring Outcomes
First Month
Second Month
Third Month
Fourth Month
Fifth Month
6-12 Months

Figure 1. The six phases included in a physician educational process used at Anderson Memorial Hospital. A "layered" approach was used to increase physician awareness of practice patterns at the hospital, special and individual level.

cians during their monthly departmental meetings. Peer groups were designated using patient populations with equivalent case mixes, patient severity levels and physician specialty. Brainmaker, a neural network software computing program, was used to produce patient severity levels and to match peer groups so that appropriate practice comparisons among physicians could be made.

Specific educational activities were designed to encompass a six-month period depending on the complexities involved with the diseases being studied. The six phases of the process used in this study are described in Figure 1. Reports are distributed beginning with the fourth phase and discontinued before the sixth phase. Specific activities occurring during each phase are as described below.

Phase One: To begin the study, data were retrieved from the Medical Record Abstract and hospital mainframe data bases (UB82). These data were examined for errors using computer algorithms (genetic) written and designed to detect inconsistencies in patient files. The programs correct data errors such as inconsistent discharge and admission information and compile files used in the statistical studies to generate reports.

Phase Two. A preliminary computer profile of the 10 highest ranked Diagnosis Related Groups (DRG) at Anderson Hospital in terms of mortality, Length of Stay (LOS), nosocomial infection or complications, readmission rates, average prospective adjustments (losses) to charges and aggregate adjustments for prospective payments were given to physicians. These profiles including detailed statistical measures of the ranked DRG's above as well as a brief summary were discussed in physicians' departmental meetings.

Phase Three. Following discussion of the DRG reports, survey forms were used to solicit input from each physician as to those DRGs they would like to see studied in detail. Results of rankings were compiled and the top DRG, pneumonia, was selected for more in-depth study.

Phase Four: Narrative and graphical reports containing composite practice patterns for the designated peer groups and for the hospital-wide practice patterns were prepared and presented in a meeting format. Reports included resource use and standard of care assessments. Variables reflecting resource use were defined as total patient charge, readmission rates, total government (prospective) adjustments and average prospective adjustments to charges; variables reflecting standard of care were defined as mortality, readmission rates, nosocomial infections or complications and discharge code. The general hospital-wide educational materials were presented to control and experimental physicians as described below. Individual physician reports were presented to only a select sample of physicians as described below.

Phase Five. Individual reports were confidentially mailed to those physicians taking part in the study as described below. These reports included details of patients' severity levels, treatment patterns, resource use and standard of care variables. Relevant medical literature citations were included to aid in interpretation. The reports are considered highly confidential and their educational nature is emphasized.

Phase Six: At six-month intervals during the last phase of the process, additional graphs of trends in the variables were presented to hospital administration and to the Physician Advisory Committee without compromising physician confidentiality. Effectiveness of the educational process in affecting resource utilization and clinical outcomes were evaluated during this phase.

Physician and Patient Sampling

Initially, a sample of 41 physicians recruited from the population of those physicians willing to take part in the statistical study were randomly assigned to either the experimental or control group. Of the 20 physicians assigned to the experimental group, five did not want to receive individual reports and had to be moved to the control group, resulting in 26 physicians being assigned to the control group and 15 being assigned to the experimental group. Since random assignment was compromised to accommodate physician preference, statistical comparisons of patient severity levels and case mixes were computed.

Patients treated by physicians not in the study did not contribute data to the study data base. Using the procedures described above, 1,510 patients who met the inclusion criterion (primary diagnosis of pneumonia) for the

Table 1. Input Variables For Severity Calculations

Constant
Rehab/Disabled Condition
Comp/Comorbid Codes
Chronic Lung History
History Of Stroke
Sex
Age At Admission
Cardiac Complications
Diabetes
Hypertensive Disease
Marital Status
Body Systems Involved
MI Location Severity
Major Comorbid Groups
Dialysis Required
Health Status Modifiers
Hemorrhagic Disorders
Red Cell Anemia & Vitamin Def
Very Severe Cardiac Disorders
Previous CABG
Very Severe Neoplastic Disorders
Very Severe Infectious Disorders
Nutritional Disorders
Mental Disorders
Race
Admit Category
Fluid/Electrolyte Acid/Base Deficiencies
Current Smoker
Very Severe Gastro/Int Disorders
Financial Class
Of Previous Admissions
CHF On Admission
Old MI Risk
Isolation
Chemotherapy Required
Catastrophic Illness
Obesity
Senility & Degen Cerebral Disorders
Other Very Severe Disorders

study were identitied. Twenty-six variable values for each patient were entered into a neural network analysis computer program. Similar to traditional regression analyses, the neural network program uses a systematic procedure to make predictions from a set of input variables as listed in Table 1. In this case, the variables were used to predict severity of illness. For 1,486 patients, the severity index predicted was determined to be satisfactory. Twenty-four patients had variable values identified by the computer program as dramatically skewed so these patients were removed from the study. Three errors (either total charges or LOS was incorrectly coded) in patient data undetected earlier were discovered which narrowed the patient data base to 1,483. All remaining patients' data comprised the data base from which the study analysis was completed.

Procedure and Design: Two independent variables, time and group, and two dependent variables, length of hospital stay (LOS) and total patient charge, were defined. The time variable was divided into six periods. Period one, 12 months prior to the initial physician feedback session, was considered the baseline period. Data were collected post hoc between October 1987 through September 1988. The next block of time was divided as follows:

1. Educational Process: October 1988 through March 1989;
2. Follow-up: April 1989 through September 1989;
3. Follow-up: October 1989 through March 1990;
4. Follow-up: April 1990 through September 1990; and,
5. Reversal: October 1990 through September 1991.

During the three follow-up periods and the 12-month reversal period, no pneumonia reports were given to any physicians. This temporal division allowed for the disclosure of trends in the data. At this writing, pneumonia reports are once again being prepared and distributed to all physicians in the hospital.

Two groups were designated as experimental and control based on the physicians' feedback information. Beginning with the fifth educational phase during the second time period beginning in October, 1988, physicians in the experimental group received summary peer group reports on the variables as well as individual reports for their patients. Physicians in the control group received summary information but no individual reports.

Data from patients treated by physicians assigned to the experimental group or to the control group were compiled by time period. In compiling patient data into the two groups, experimental and control, for each time period, it was observed that not all physicians had patients during each time period. This precluded the use of a repeated measures analysis. Since an investigation of an overall trend effect was a priority over specific physician effects, the data from all physicians' patients in each group were pooled and analyzed for general group effects.

Hospital resource-related dependent variables, LOS and total patient charge, selected from physician reports for this study, were first analyzed for normality to determine the appropriate statistical analysis. Following the normality analysis, a 2 x 6 factorial design was selected and the variables were entered into the Minitab, Inc. software computer program using an analysis of variance for unbalanced cells. To determine the significance of group and time period differences among the means, the analysis of variance was completed for each dependent variable. Standard of care variables selected for descriptive analysis were mortality and readmission rates.

RESULTS

The normality analysis showed only a mild positive skew in the variables, 0.82 for LOS and 0.84 for charge. Since other assumptions for inferential analysis using interval measures were met, the analysis of variance was completed and means and standard deviations for each variable were calculated and are found in Table 2. Visual inspection of the table indicates differences between the groups

Table 2

Group	Time Period *One*	*Two*	*Three*	*Four*	*Five*	*Six*
LOS Means and Standard Deviations (Days)						
Control	9.84 (9.81)	9.72 (6.69)	10.13 (7.17)	9.06 (7.31)	10.02 (11.80)	9.00 (7.21)
Experimental	9.85 (10.27)	9.12 (6.45)	8.43 (7.07)	7.81 (4.69)	6.84 (4.19)	9.10 (7.74)
Total Patient Charge Means and Standards Deviations						
Control	$6722 (8840)	$7113 (6156)	$8715 (7987)	$7931 (8728)	$10051 (15289)	$9039 (8699)
Experimental	$6819 (12887)	$7575 (9573)	$6320 (6197)	$6409 (5484)	$5988 (5404)	$9006 (11199)

at all time periods except for the initial baseline period and the final baseline period. Figures 2 and 3 depict a more graphic illustration of these effects.

Previously, the initial comparison of groups indicated that there was no significant difference in patient severity between the experimental and control groups. This initial comparison was necessary before physician reports could be prepared to confirm the comparability of peer groups. This permitted a comparison of groups without the complicating issue of patient illness.

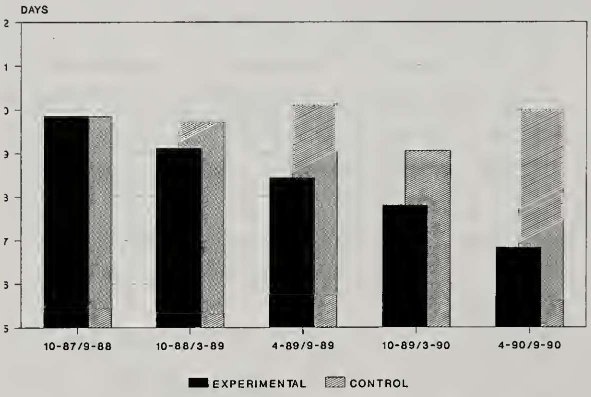
FIGURE 2. MEAN LOS FOR PNEUMONIA
(ALL CLASSES OF PNEUMONIA)

Figure 2. A comparison of average Length of Stay (LOS) for two groups of pneumonia patients treated at Anderson Hospital. The experimental group was treated by physicians who received hospital, specialty, and individual data reports profiling treatment patterns for pneumonia patients. The control group received the same reports except for the individual practice summary report.

Lenth of Stay

Table 3 illustrates a statistically significant difference between the groups, F=5.37 and p=0.021. The experimental group differed from the control group with lower means for time periods two through five. There were no differences between the groups during the baseline period, 9.9 days for the experimental group and 9.8 days for the control group. Multiple comparisons using the Tukey procedure indicated a statistically significant difference between the experimental and control groups for time period five, p=0.028. The experimental group's 6.8 days was significantly lower than the control group's 10.0 days. At the conclusion of time period two,

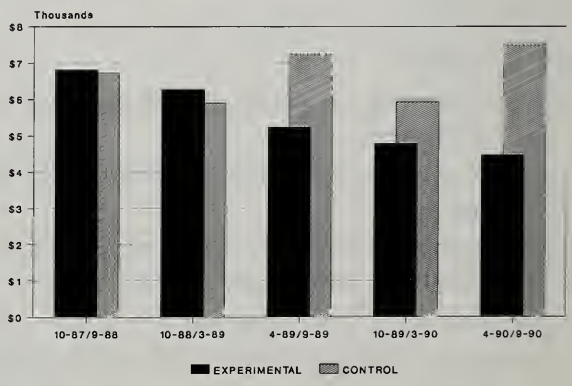
FIGURE 3. MEAN TOTAL CHARGES
(ALL CLASSES OF PNEUMONIA)

ADJUSTED 1987 DOLLARS

Figure 3. Comparison of total billed charges for two groups of pneuymonia patients treated at Anderson Hospital.

Table 3

Source	*df*	*Seq SS*	*Adj MS*	*F*	*P*
Analysis of Variance for LOS					
Group	1	136.88	321.66	4.78	0.029
Time period	5	293.70	72.25	1.07	0.373
Gp x period	5	301.01	60.20	0.90	0.483
Error	1471	98901.55	67.23		
Total	1482	99633.15			
Analysis of Variance for Patient Charge					
Group	1	207472064	409038144	4.25	0.034
Time period	5	1140783872	184500224	2.04	0.071
Gp x period	5	579601984	115920400	1.28	0.270
Error	1471	1.3313E+11	90502288		
Total	1482	1.3506E+11			

all reports were discontinued. During periods three through five no reports were given to physicians. During the twelve-month reversal period (period six), the experimental group mean LOS increased to 9.1 days, very close to the baseline period. The control group decreased slightly to 9.0 days. Within each group, there were no significant differences among the time periods. That is, even though mean LOS decreases during time periods two through five, the decrease was not shown to be statistically significant (see Figure 2).

Charge

Table 3 indicates a statistically significant difference between the groups, F=4.52 and p=0.034. The experimental group differed from the control group with lower means for time periods three, four and five. The baseline periods were very similar, $6,722 for the control group and $6,819 for the experimental group. Time period two gave a reversed effect with the experimental group displaying a higher mean charge ($7,575) than the control group ($7,113). For time period five, the experimental group had a statistically significant lower mean charge ($5,988) than the control group ($10,051), p=0.028. The trend (time period) effect approached significance, p=0.07, illustrating an average increase in charge for the control group as would be expected, and a decrease in mean charge for the experimental group up to time period six. At this final reversal period, both groups converged at approximately $9,000. Dollars were adjusted for inflation for this analysis.

Clinical Outcomes

An important adjunct to the study was an investigation of the standard of care variables described earlier. Readmission rates and mortality were selected for further analysis from those presented in physician reports. Figures 4, and 5 present mortality and readmission rates for five time periods nearly corresponding to the first five periods described previously. Data availability limited the baseline period mortality and readmission analysis and between periods two and three the break was offset by one month.

Both measures were stable or declined for each group. A composite graph for three fiscal years in Figure 6 displays mortality and readmission rates for all pneumonia patients. Rates have declined over the three year period which indicates that

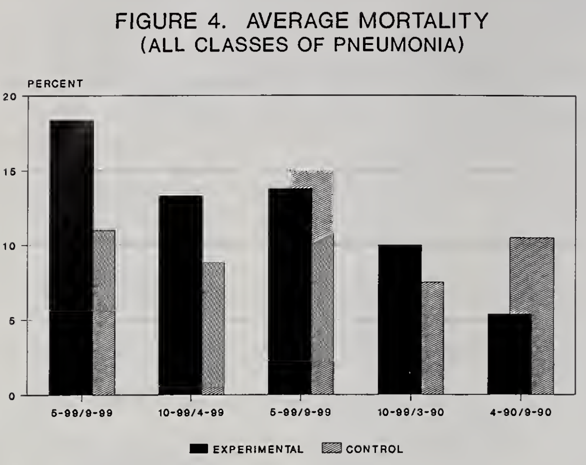

Figure 4. Average mortality rates for the experimental and control groups during the study period.

clinical outcomes have not been compromised by the educational process.

Reimbursement Savings

Total charge reductions do not necessarily reflect actual operational losses for the hospital, however, changes in adjustments for prospective payments very clearly reflect real operational losses or gains. From the beginning of October 1988 when educational feedback was initiated, a drop in average government adjustments was seen in each of the study periods. In the last study period, the difference between average government adjustments for experimental group and control

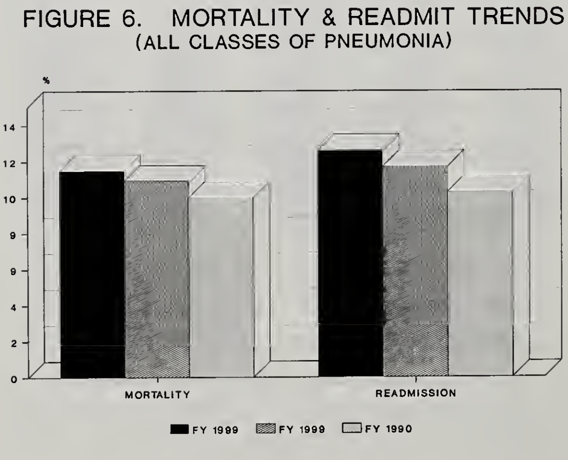

Figure 6. Mortality and readmission rates for all pneumonia patients treated at Anderson Hospital.

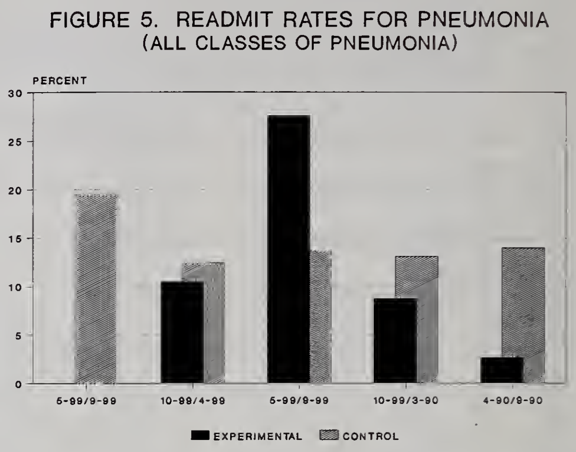

Figure 5. Readmission rates for the experimental and control groups.

patients was $2,391. For the 189 government patients treated by physicians in the experimental group between 5-88 and 4-90, the savings on adjustments amounted to $183,581 in unadjusted dollars. Figure 7 illustrates government adjustments during the experimental/control study period. Level adjustments rates were successfully maintained in the experimental group while adjustments for the control group were higher.

DISCUSSION

Physician practice behavior can be modified by providing feedback on practice patterns

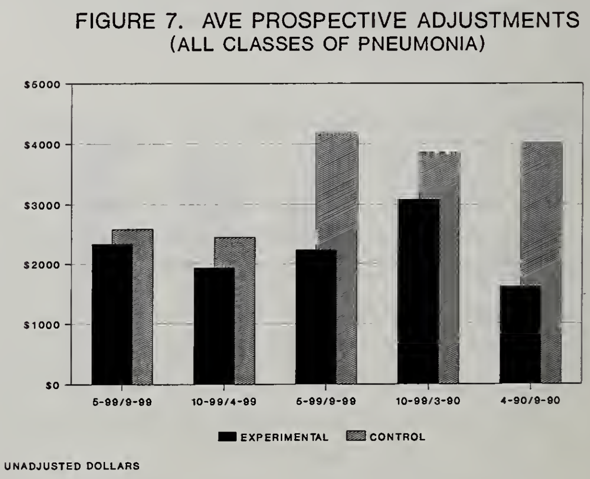

Figure 7 . Average adjustments to government prospective payments for all classes of pneumonia during study period.

and outcomes compared to peer groups. The literature and these findings at Anderson Hospital show that physicians respond to informative, educational materials. As reported in the literature, physicians can practice in a manner that will result in lower consumption of expensive hospital resources without compromising outcomes. To be effective in educating time-pressured physicians, it is essential that the educational materials be accurate, readable and easily interpreted.

The benefit of an educational program for physicians is real, however it was found that the benefit is lost if the physicians are not "reminded" of the findings on a periodic basis. In period six, which was referred to as a reversal period, the benefit of a single exposure to an educational program months previous was completely lost. The loss was rather abrupt as shown in Table 2 in period six. This reinforces the belief that physician education must be a continuous periodic process for the benefit to be maintained.

It is believed that some of the effect on physicians results from a desire on their part to avoid classification as a high outlier for resources measures such as LOS or total charges. The reporting provided to the experimental physicians gave them information about outlier status. It was found that physicians in the experimental group had much less variation in LOS and total charges during periods four and five in which the educational effect was strongest. This is shown by the much smaller standard deviations in Table 2 for the experimental group.

In preparation of any educational materials, there may be conflict between administration and clinical staff in selecting goals. Some compromise is necessary so that both groups' interests in terms of financial information and clinical outcomes are included. At Anderson this potential conflict never became an issue. It is also important to allow physicians to control the selection of variables to be generated in reports and provide input into the design and dissemination of reports. Physician confidence and support of the process is mandatory for successful studies which modify behavior in ways which do not detract from excellent medical care.

SUMMARY

An experimental-control group study was carried out in a large community hospital in which the experimental variable consisted of a one-time exposure of physicians to clinical and financial specifics regarding their individual treatment and management of pneumonia patients. A computerized report generating technology was used to create individualized reports for physicians detailing their practice patterns with respect to pneumonia patients. It was found that providing physicians with specific information about their practice behavior resulted in these same physicians using fewer hospital resources as expressed in total billed charges and Length of Stay. At the same time there was no compromise in outcomes for patients as measured by mortality, readmission rates, and infection/complication rates. The improvement in resource utilization was observed for two years following the provision of practice specific data to the experimental physicians. ❒

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TRAINING FAMILY PHYSICIANS: A CASE STUDY*

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The shortage of primary care physicians is widespread and has been a concern of both federal and state policy makers for some time.[1-5] To address this problem in South Carolina, the Legislature established the University of South Carolina School of Medicine (USCSM) in the early 1970s and charged it with training primary care physicians to meet the needs of South Carolinians. Recent data (1990-1991) from the Association of American Medical Colleges indicate that USCSM has one of the highest percentages of graduates entering primary care specialties (70 percent; includes Family Practice, General Internal Medicine, General Pediatrics, Obstetrics/ Gynecology, and Emergency Medicine). USCSM also has one of the highest percentages of graduates practicing in a non-urban setting. Nearly 60 percent of all the USCSM graduates from 1981 through 1988 and 65 percent of the graduates in primary care are practicing medicine in South Carolina. Nearly half (49%) of the USCSM graduates located in South Carolina are providing medical care to populations outside the State's four major metropolitan areas.

Twenty percent of USCSM's graduates have entered family practice residency programs and many of them entered programs in South Carolina. The USCSM has been a major supplier to the USC/Richland Memorial Hospital (USC/RMH) family medicine program which began in 1974 and graduated its first class in 1977. By July, 1990 the USC/RMH program had graduated 100 family physicians. Nearly 80 percent have established practices in the Southeast and, 56 percent are currently practicing in South Carolina. This paper summarizes the practice patterns for alumni from this program and compares these alumni with those of other national and South Atlantic regional samples of family physicians.

METHODS AND RESULTS

In December, 1990 and in March, 1992 questionnaires were mailed to all graduates of the USC/RMH Family Medicine program. The questionnaire solicited information about each physician's reasons for selecting family medicine as a career, USC/RMH as a training site, factors affecting his/her choice of a particular community, and current personal satisfaction with medicine and practice location. Of the alumni in practice in South Carolina who returned completed questionnaires, 73 percent (N=26) have established office-based primary care practices and constitute the sample for this report.

Of the 26 respondents, 89 percent were men; the mean age was 35 and the mean years of practice was 5.6 with a range of one to 12 years. More than 90 percent are board certified in Family Medicine while the remaining graduates are board eligible.

Table 1 presents characteristics of the USC/RMH graduates and normative data from national and regional surveys. While 26 percent of family practitioners across the nation and 33 percent in the southeast practice in rural areas,[6] 58 percent of the

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TABLE 1
PRACTICE CHARACTERISTICS OF USC/RMH FAMILY PRACTICE ALUMNI, NATIONAL AND SOUTH ATLANTIC REGIONAL NORMS

PRACTICE CHARACTERISTICS	USC.RMH ALUMNI	NATIONAL NORMS	SOUTH ATLANTIC NORMS
Rural Practice Location (%)	38.0	26.3	32.6
Solo Practice Arrangement (%)	23.1	34.0	39.6
Hospital Admitting Privileges (%)	100.1	89.5	82.6
ICU Privileges (%)	92.3	68.9	64.4
CCU Privileges (%)	92.3	67.5	63.2
Mean Number of Patients Seen/Week	124.6	107.7	105.6
Accepting New Medicare Patients (%)	80.0	49.3	45.3
Accepting New Medicaid Patients (%)	37.5	-----	-----
Treating HIV Positive Patients (%)	96.2	44.1	53.9

USC/RMH graduates deliver primary medical care outside of the four major metropolitan areas of South Carolina. Thirty-eight percent of the alumni practice in small communities of less than 10,000.

Fifty percent of alumni decided about where to practice medicine during their residency training. Another 25 percent made the decision about practice location after completing their training. More than half (55%) of the alumni practicing in a rural area compared to 31 percent of those in an urban area (p>. 05) were actively recruited to establish their medical practice. While recruitment efforts were important in the practice location decisions of about 40 percent of our alumni, patient care experiences and faculty role models observed during residency training were instrumental in the practice choices of as many as 75 percent who made their practice location decision after starting their residency training.

A lower percentage of the USC/RMH graduates are engaged in solo practice compared to a national norm of 39.6% for family medicine.[6] Of the 76.9% of USC/RMH graduates in group practices, half practice in a small group (i.e., two or three physicians) and all practice in an exclusively primary care setting. Nearly two-thirds maintain a single office while 19 percent have two and 15 percent see patients at three office sites.

All of the responding alumni have hospital admitting privileges compared to 82.6% of family physicians in the South Atlantic region and 89.5% nationally.[7] Moreover, 48 percent of our alumni have admission privileges at more than one hospital and more than 90 percent have both critical care (CCU) privileges and intensive care (ICU) privileges.

The number of patients seen by alumni in their practice varies greatly. The mean and median number of patients for our sample is 5,283 and 4,353 respectively. The average number of patients seen per week is 124.6. This figure exceeds the 107.7 and 105.6 weekly averages found in national and South Atlantic regional samples of family physicians, respectively[8] and may be explained by the higher than average percent of alumni in group practice arrangements.

Charges for a routine office visit ranged from a low of $20 to a high of $35 (Mean = $28.50; Median = $28.00). Nearly 40 percent accept PPO and HMO payment while 68.2% provide pro bono services an average of approximately 7.5 hours per month. Eighty percent of our alumni report accepting new Medicare and 37.5% report accepting new Medicaid patients.

Further, 96 percent of USC/RMH alumni report treating HIV positive patients which is significantly higher than the 44.1% and 53.9% rates reported in national and South Atlantic regional samples of family physicians, respectively.[7] In another national sample, 32 percent of rural family physicians and 60 percent of urban family physicians report treating HIV positive patients.[9] The comparable percentages for USC/RMH family practice alumni are 91 percent of our rural and

TABLE 2
MEAN NUMBER OF HOURS SPENT EACH WEEK IN SELECTED PROFESSIONAL ACTIVITIES

PROFESSIONAL ACTIVITY	MEAN HOURS	STANDARD DEVIATION
Outpatient Care	41.9	9.1
Inpatient Care	7.4	5.4
Nursing Home Visits	0.9	1.2
Home Visits	0.5	0.6
Continuing Medical Education	2.8	1.0
Hospital/Professional Committees	1.2	1.0
Office Management	2.6	2.4
Nights on Call/Month	13.3	8.8

100 percent of our urban alumni.

Table 2 shows the number of hours spent each week in selected professional activities. The average professional work week of alumni exceeds 57 hours but there is considerable variation in how these hours are allocated over various professional activities. For example, the number of hours spent in outpatient care ranges from 25 to 55 (Mean = 41.9) and the number of hours allocated to inpatient care ranges from <l to 20 (Mean = 7.4). Cumulatively, an alumni's average work week in outpatient and inpatient care involves 49.3 hours which is an hour and a half more than the 47.8 hours a week averaged by a national sample of family physicians.[8] In addition, nursing home and home visits consume another 1.5 hours each week for a total of 50.6 hours per week in patient care activities. Added to this is an on-call schedule that averages 13.3 nights per month.

Alumni devote approximately 150 hours per year to continuing education which is consistent with the high percentage of board certification among graduates. An additional 1.2 hours per week are spent in hospital committee work. Nearly 2.6 hours are spent each week in office management.

USC/RMH family practice alumni spend more than one-third of their direct patient care time practicing preventive medicine (i.e., 7.6 hrs/wk), related patient education activities (i.e., 7.6 hrs/wk) and alcohol and drug abuse counseling (i.e., 2.7 hrs/wk).

Table 3 presents the percentage of alumni who report frequently treating selected medical conditions in their practice and the percent who report they are comfortable in their ability to treat these patients. Nearly 80 percent say they frequently see elderly patients in their practice while 75 percent report they frequently treat pediatric patients. The care of the geriatric patient occupies the largest single block of time (i.e., 12.2 hrs/wk) with a near equal amount of time (i.e., 11 hours) each week spent in the care of pediatric patients. About 75 percent of this sample report frequently treating gastro-intestinal problems. Nearly two-thirds frequently treat patients with cardiovascular disease which is hardly surprising since South Carolina has the highest cardiovascular disease mortality rates in the United States.[10] Just under 40 percent of these physicians report frequent contact with Ob/Gyn patients and only 21 percent

TABLE 3
PERCENT OF USC/RMH FAMILY PRACTICE ALUMNI REPORTING FREQUENT MANAGEMENT OF CONFIDENCE IN ABILITY TO TREAT SELECTED MEDICAL CONDITIONS

MEDICAL CONDITION	FREQUENT MANAGEMENT	CONFIDENCE TO TREAT
Geriatrics Patients	79.2	97.7
General Pediatrics	75.0	87.5
Gastro-Intestinal Problems	75.0	97.5
Cardiovascular Problems	62.5	83.3
Allergies	45.8	66.7
OB/GYN Problems	39.1	69.6
Orthopaedic Problems	29.2	25.0
Substance Abuse Problems	20.9	49.0

frequently treat substance abuse patients.

More than 90 percent of our alumni are very confident in their ability to treat the geriatric patient. No doubt this confidence is based, at least in part, on the required geriatrics rotation precepted by the USCSM Departments of Family Medicine and Internal Medicine. Similarly, alumni have a high degree of confidence in their ability to care for pediatric and cardiology patients. The lower percentage who report confidence in treating the Ob/Gyn patient may be due to the threat of malpractice claims which are so common in this field of medicine. The finding that only about one-half report a high degree of confidence in treating substance abusers and the 25 percent who report confidence in treating the patient with an orthopaedic problem are areas in which the residency training program could be strengthened.

Eighty-six percent of the USC/RMH family practice alumni live and practice in the same community. Providing medical care, however, is only one aspect of being a physician and serving the community. Our alumni are active citizens in their community and 80 percent report strong social and community ties while 88.4% report being "satisfied" or "very satisfied" with their practice and with life in their community.

Table 4 describes the community participation activities of our alumni. More than half of the alumni are involved in community service in church and health related organizations. At the same time, nearly a quarter provide community service through participation in youth related groups such as scouting or as members of civic groups such as Sertoma, Rotary, etc.

TABLE 4
PERCENT OF USC/RMH FAMILY RESIDENCY ALUMNI PARTICIPATING IN SELECTED COMMUNITY ORGANIZATION

COMMUNITY ORGANIZATION	PERCENT MEMBERS
Health Related Organization	57.7
Church Related Organization	57.7
Youth Related Organization	26.9
Civic Club	23.1
Cultural Organization	19.2

DISCUSSION

The survey findings of USC/RMH Family Medicine alumni presented here are encouraging in several respects. A majority (56%) of the graduates of this program have remained in South Carolina, treating approximately 112,000 people. Thirty-eight percent of alumni are practicing in towns of 10,000 people or less. Comparably, a national survey of 1991 Family Medicine graduates indicates that 7.0 percent of family physicians practice in towns of 2,500 people or less and 35.1% practice in towns with populations less than 25,000.[11] Given USCSM's mission statement and the need for more rural primary care practitioners in South Carolina, these results are gratifying. A higher percentage have hospital, CCU and ICU privileges than found in other national surveys. They average almost two more hours per week in direct patient care and see about 20 more patients per week than do family physicians elsewhere in the nation.

Our alumni treat patients across the developmental continuum from pediatric to geriatric problems. Most conduct nursing home visits, home visits, and provide patient education, preventive services, and drug counseling. Most (80%) accept new Medicare patients and 39 percent accept new Medicaid patients. While these participation rates are higher than the current national and regional family physician participation rates 49.3% and 45.3% respectively,[12] acceptance of new Medicaid patients by alumni is considerably lower than the 75.1% rate in 1977-78 and the 81.9% rate in 1984-85 among family physicians nationally.[13] Prior authorization, limits on quantity of services, lower fee reimbursements, a high percentage of returned claims, and increased paperwork are among the explanations for the low rate of participation.

The finding that 96 percent of our alumni treat HIV positive patients is considerably higher than recent results from other samples which report family physician participation rates from 38 to 75 percent.[14] Given the increasing prevalence and distribution of this disease throughout South Carolina and the reluctance of some practitioners to treat these patients, this finding is encouraging.

Finally, despite an extensive work week and frequent night call, more than 70 percent of our alumni engage in volunteer activities and 72 percent provide pro bono services. Over 88 percent of our alumni express satisfaction with their career and with their medical practice.

SUMMARY

A survey of USC/RMH Family Medicine alumni indicated that a large proportion have remained in South Carolina, providing primary care especially in small towns and rural areas. These physicians engage in a broad range of clinical activities and feel comfortable with treating a wide spectrum of patient problems. The alumni are active participants in religious, cultural and civic programs in their communities and they express satisfaction with their decision to practice Family Medicine in South Carolina. ❒

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THE COURAGE TO RATION

The best quip at this year's SCMA convention may have been given by Dr. James S. Todd, Executive Vice President of the AMA. Dr. Todd said: "Leading physicians is about as easy as herding cats." Unfortunately, the same might also be said of the American public, especially in matters pertaining to health care delivery.

In his presidential address to the House of Delegates, Dr. Ed Catalano called for greater emphasis on primary care. This sentiment certainly reflects the mainstream of current medical thought. Leaders of academic medicine are now urging that at least 50 percent of medical school graduates should enter the primary care specialties. Indeed, primary care is becoming something of a cause celebre´.

Primary care is generally perceived to be more cost-effective than sole reliance on specialty, subspecialty, and sub-subspecialty care. This principle undergirds the entire movement toward greater emphasis on managed care. The concerned, experienced primary care physician — whose broadly-based expertise is laced with wisdom, compassion, and common-sense — seems ideally positioned to steer his/her patients through the maze of technology. The result: cost-effective, appropriate medical care.

But does the American public actually want a preponderance of such physicians? Some polls suggest otherwise. It seems a majority of the public values instant access to high technology more than it values the deliberate, measured, thoughtful opinion of the broadly-trained generalist. Do they fully understand the issues? A basic and recurrent question is whether health care should be a right rather than a privilege. My answer (and I think, that of the majority of physicians) is both yes and no. Yes, everyone deserves to have lacerations sutured, fractures set, abscesses drained, and tumors resected. Yes, everyone should receive penicillin for pneumococcal pneumonia and lidocaine for ventricular tachyarrhythimas. The list could, of course, continue. But no, no one should be able to demand (without paying for it) an MRI scan to rule out brain tumor with, say, 99.9 percent confidence as opposed to the 99 percent confidence assured by a meticulous history and physical examination. Three decades ago, Ivan Bennett and others defined the problem as a technological imperative. If technology exists, people want it. If they perceive it to be a right, they will demand it — even if such demands are detrimental to the best interest of society.

I patterned the title of this editorial on that of a book by one of my favorite theologians, Paul Tillich's *The Courage to Be*. Tillich argued (as have others) that the most fundamental problem of our existence is the courage to stand up to the inevitability of death and its threat of non-being. If we possessed an afterlifescope, how many of us would not pay to use it — at any cost! For just about any medical symptom or sign, today's diagnostic panoply includes a vast array of increasingly costly technologies designed, in large part, to reduce the anxiety of not knowing. Hence, many thoughtful observers argue that we must indeed find the courage to ration. But if these cries are to have impact, they must reach crescendo proportions.

The Oregon plan was a bold step in the right direction. The cost-benefit ratio was estimated for 709 medical conditions. The public, through it elected representatives, could then choose what to fund. Unfortunately, the plan was defeated by what would seem to be casuistic reasoning. Again, what seems to be lacking in our society is a forum for meaningful dialogue, for making both sides of a complicated issue fully heard and understood. There will always be exceptional cases (outliers) upon which critics can denounce any form of rationing whatsoever. Yet ration we must if health care costs are to be contained in any meaningful way.

By the time this issue of *The Journal* reaches press, the Clinton Administration will (if it keeps its pledge) have announced its long-awaited global plan for health care delivery. In its preliminary discussions, sacrifices have been called for by only a few: mainly, pharmaceutical manufacturers and health care providers. True cost containment will require a sacrifice by everyone. Only by speaking with one voice can we, as physicians, make a difference. Here and there, glimmers of insight are beginning to appear. Let us have the patience to listen, and the persistence to keep up the reminder that medicine remains an inexact science based in large part on the art of probability. Let us, like our forebears, have the courage to tolerate the anxiety of not knowing for sure — at times, even when exhorbitantly priced procedures are available! Let us, too, have the courage to ration. But let us remind ourselves that any form of rationing does not preclude remaining true to our social contract: "To cure, sometimes; to heal, often; to comfort, always."

— CSB

Letters to the Editor

To the Editor:

I thoroughly enjoyed reading "Tasteful Advertising" in the current issue of the SCMA *Journal*. Whenever I drive, my eye instinctively scans the license tags of the cars around me; many an unexpected smile is arnered in this fashion. For my part, I have chosen to express a climate preference, rather than a medical message, on my tag, for after too many years in upstate New York, I decided that "IH8SNOW" (I hate snow) and relocated to the sunny South.

Two of our professional colleagues in the Columbia area have tags which bear mentioning. A local obstetrician calls himself "Z STORK." And one of Columbia's premier "addictionoloists" who practices at Charter Rivers calls himself "ETOH MD."

If others have sent in their addenda, as I have, perhaps you would consider compiling and publishing them in a future article.

Sincerely yours,
Peter J. Stahl, M.,D.
1721 Horseshoe Drive
Columbia, SC 29223

President's Page

A COORDINATED AND UNIFIED APPROACH

One of the activities which occupies much time, effort and resources of the South Carolina Medical Association is our legislative effort. This year the SCMA tracked over 200 bills in the South Carolina State Legislature which related to health care. This represents approximately 20 percent of the total number of bills considered during the legislative session.

Some of the more visible pieces of legislation which occupied time this past year included the optometry bill, the physician self-referral bill, the health care data collection bill, Senator Leatherman's health care reform package, free clinic license exemption, physician assistant regulation changes, independent practice status for physical therapists and bills regulating abortions.

Our staff which handled these matters, primarily Bill Mahon, Barbara Whittaker, Steve Williams and Jan McKellar, are knowledgeable, hardworking and well-respected at the state house. They did an excellent job with remarkably good results. As in years past, their coordination of our efforts greatly helped to promote the ideals of our profession and protect the best interests of our patients.

This past year should serve as an excellent example to illustrate the importance of a coordinated and unified approach to this political process. Independent activities in this arena are costly and divisive, and can be counter-productive to the interests of medicine in general. A global perspective, well-communicated and coordinated with all specialties, will certainly be the most productive approach. At this critical junction in health care reform, unity is our strongest ally.

E W Catalano MD
Edward W. Catalano, M. D.
President

The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89
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Contents

Original Scientific Articles

323 **Opportunities for Enhanced Cervical and Breast Screening Referral in Charleston County**
R. Marshall Austin, Ph. D., Paul L. Baron, M. D., Christopher E. Gates, M. D.

329 **Diagnostic Office Arthroscopy**
James W. Yates, Jr., M. D.

333 **Combined Modality Therapy in the Treatment of Carcinoma of the Anus at the Medical University of South Carolina**
Paul H. O'Brien, M. D., Mark R. Williams, M. D., Joseph M. Jenrette, III, M. D., Brian R. Pitre, M. D.

343 **A Strategic Approach for Pain Management in Cancer Patients**
Charles G. Sasser, M. D.

Editorials

349 **Dr. Weston**
Charles S. Bryan, M. D.

351 **Neural Tube Defect Prevention - The Folic Acid Story**
William P. Allen, M. D.

Features

357 **Alliance Page**
353 **Letters to the Editor**
354 **On The Cover**
321 **President's Page**

Association

355 **Gray Matter**
337 **SCMA Newsletter**

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The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89 JULY 1993 NUMBER 7

OPPORTUNITIES FOR ENHANCED CERVICAL AND BREAST SCREENING REFERRAL IN CHARLESTON COUNTY*

R. MARSHALL AUSTIN, M. D., PH. D**
PAUL L. BARON, M. D.
CHRISTOPHER E. GATES, M. D.

INTRODUCTION

The pap smear is the only cancer screening test in medical history which has been able to decrease the death rate due to a prevalent cancer (cervical cancer) by 70 to 80 percent.[1,2] Similarly, mass screening studies suggest that modern mammography can reduce breast cancer mortality by at least 30 percent.[3] Despite the success implied in these statistics, the American Cancer Society (ACS) estimates that in 1992, 4,400 deaths from cervical cancer and 46,300 deaths from breast cancer will occur.[4] Most of these deaths will occur in women who have not been screened in compliance with ACS guidelines.[5,6] Among unscreened or infrequently screened women, cervical cancer victims frequently report that they have not been referred for cancer screening by their physicians.[7,8] Similarly, lack of recommendations by some physicians appears to be a major barrier to mammography.[9,10] In order to improve awareness of the need for cervical and breast cancer screening, the Professional Education Committee of the Charleston County Chapter of the American Cancer Society separately surveyed Charleston County women and physicians regarding their use of these screening tests.

METHODS AND MATERIALS

A cancer screening survey for women was distributed to women's organizations in Charleston County and published in the Charleston *News and Courier* (August 1991). The following questions were asked: (1) How old are you? (2) What is your race? (3) What is your zip code? (4) Have you ever had breast cancer? Have you ever had cervical cancer? Has your uterus been removed (hysterectomy)? (5) Have you ever had a mammogram? Have you ever had a pap smear? (6) When did you have your last mammogram? When did you have your last pap smear? (7) Are you under the care of a regular physician? (8) What type(s) of doctor(s) do you see regularly? (9) Do your physicians recommend periodic mammography during examinations? (10) Do your physicians offer or suggest pap smear testing during examinations when you have not had one in the last three years? (11) Does your insurance pay for mammography? Does your insurance pay for pap smears?

---

*From the American Cancer Society, Charleston County Chapter; Roper Hospital (Dr. Austin); and the Departments of Pathology and Laboratory Medicine (Dr. Austin), Obstetrics and Gynecology (Dr. Austin), and Surgery (Drs. Baron and Gates), The Medical University of South Carolina, Charleston, SC.

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A separate women's cancer screening survey for physicians was mailed (September 1991) to Charleston County physicians with a mailing list provided by the Charleston County Medical Society. The following questions were asked: (1) During the past year, what percent of your female patients who had not had a pap smear for at least three years were offered a pap smear? What percent of women over the age of 50 who had not had a mammogram for over one year were offered or referred for a screening mammogram? (2) What are the two most important reasons why female patients who have not had a pap smear in three years were not offered or referred for this test? What are the two most important reasons why women over 50 years were not referred for mammograms? (3) Are there any changes in physician reimbursement that would make it easier to offer pap smears at least every three years? (4) Are there any changes in patients' insurance policies or costs, or patient education, that would make it easier to obtain annual mammograms on women over 50? (5) What is your clinical specialty?

RESULTS

Seven hundred and thirty-one completed cancer screening surveys were received from women in the community. Survey evaluations were directed towards comparing and contrasting women in compliance with ACS guidelines for pap screening and mammographic testing versus those not in compliance. Women over 18 were judged not to be in compliance with ACS guidelines if they had not had a pap smear within the last three years. Women 40 and older were considered not to be in compliance with ACS guidelines if they had not had a mammogram within the last one to two years. The voluntary respondents represented overall a highly compliant group. Compliance with ACS pap smear guidelines was reported by 91 percent of 475 respondent women who had not had a hysterectomy. Non-compliance with ACS pap smear guidelines was reported by 42 women (9%). Compliance with ACS mammographic testing recommendations was reported by 87 percent of 481 respondents aged 40 years or older. Non-compliance with ACS mammographic guidelines was reported by 64 women aged 40 or older (13%).

Table I compares data from women in compliance with ACS pap smear and mammographic testing guidelines with that from women not in compliance. For pap smear testing, women not in compliance with ACS guidelines, when compared to regularly tested women, were nine years older on average (52 vs 43), twice as likely to be non-white (24% vs 12%), less frequently had a regular physician (49% vs 84%), one fourth as likely to have a gynecologist (17% vs 69%), less likely to have insurance pay part of testing (34% vs 49%), and less likely to report that their physicians had suggested testing (28% vs 89%). For mammography, women not in compliance with ACS guidelines, when compared to regularly screened women, were the same average age, twice as likely to be non-white (16% vs 8%), less likely to have a regular physician (62% vs 91%), less likely to have a gynecologist (48% vs 97%), less likely to have insurance pay part of testing (40% vs 69%), and less likely to report their physicians had suggested mammography (48% vs 69%).

Seventy-five physicians in the Charleston County Medical Society completed the companion Physicians American Cancer Screening Survey for Women. Among these physicians, 21 were family practitioners or general practitioners, 14 obstetrician-gynecologists, 12 internal medicine physicians, 11 surgeons, seven internal medicine subspecialists, five

TABLE I
COMPLIANCE WITH ACS GUIDELINES BY SELECTED FACTORS
CHARLESTON, SOUTH CAROLINA, 1991

Compilance with ACS Screening Guideline	AGE (MEAN)	% Non-White	% With Regular M. D.	% With Gynecologist	% With Insurance Paying for Test	% With M. D.s Suggesting Test During Visits
Pap Smear-Compliant Women	43	12%	84%	69%	48%	89%
Pap Smear Non-Compliant Women	52	24%	49%	17%	34%	28%
Mammography-Compliant Women	55	8%	91%	97%	69%	69%
Mammography-Non-Compliant Women	54	16%	62%	48%	40%	48%

ophthalmologists, two pediatricians, two psychiatrists, and one anesthesiologist. For pap smear screening 63 percent of physicians reported performing pap testing or referral, and practices varied dramatically by specialty. While gynecologists, family physicians, and general internists reported nearly always performing pap testing when indicated, other physicians were less likely to do so or to refer for testing. Among those not suggesting pap testing, 32 percent gave "specialization " as the reason (Figure 1). Among physicians not suggesting pap testing, roughly half suggested three other reasons: oversight (20%), deferral (20%), and patient refusal (12%); seven percent reported financial considerations, and a similar number that the patient was too ill; two percent cited time constraints as a reason. Twenty-eight percent of responding physicians thought that changes in reimbursement could increase pap smear offerings, but 67 percent did not view this as a significant factor.

Approximately two out of three physicians (66%) reported suggesting mammographic referral for their patients 40 or older, but once again, as seen with pap referral, these practices varied greatly by specialty. Gynecologists, family physicians, and general internists were most likely to suggest mammographic testing. Other physicians were significantly less likely to suggest referral, and among those not suggesting mammograms, 28 percent cited their specialty as the reason (Figure 2). As with pap testing, roughly half cited three other reasons: deferral, oversight, and patient refusal; 12 percent reported financial reasons as a major factor; three percent

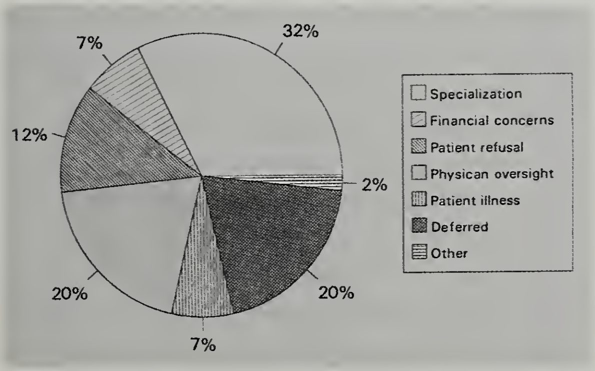

Figure 1. Reasons reported by physicians for not performing pap smears, Charleston, SC 1991.

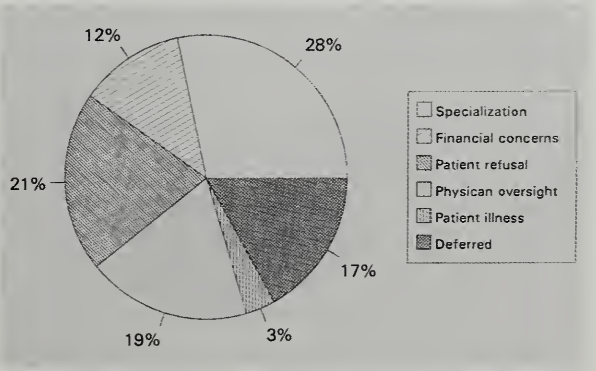

Figure 2. Reasons reported by physicians for not performing mammograms, Charleston, SC 1991.

reported the patients being too ill.

DISCUSSION

Survey results indicated that women not complying with ACS pap smear and mammographic guidelines, although a minority of the survey respondents, were significantly different in several regards from those women reporting compliance. Non-compliant patients were twice as likely to be non-white, and they were significantly less likely to report having a regular physician. Strikingly, women not complying with pap smear screening guidelines were only one-fourth as likely to report having a gynecologist as women in compliance; women not in compliance with mammographic testing guidelines were half as likely to report having a gynecologist. Therefore, having regular gynecologic care appeared to significantly predict compliance with ACS guidelines. Women lacking testing were somewhat less likely to have insurance paying for at least a part of the testing, and this difference was more pronounced for mammography than for less expensive pap testing. Women lacking regular cancer screening testing were less likely to report that physicians suggested pap testing (28%) or mammographic referral (48%) during physician visits. Women reporting regular pap testing were three times more likely to report that their physicians suggested the testing, and women having regular mammograms were 40 percent more likely to report physician referral than those lacking testing.

The data reported here are consistent with other available information indicating a relatively high level of compliance for women's cancer screening in Charleston County,[9,11] while emphasizing areas in which there is room for improvement. For pap testing, 1986 nationwide telephone survey data showed pap testing within ACS guidelines by 79 percent of women age 20 years or older, but noted that women 50 years or older were less likely to have had pap smears.[12] Physician referral may be an important factor. For example, a New York State study showed that 52 percent of new cases of invasive cancer of the cervix arose in women who had no previous pap smear, even though in the previous five years 73 percent of the unscreened women had received ambulatory medical care and 41 percent had regular care for chronic conditions.[7] In another study, 88 percent of cervical cancer patients over 65 had seen a physician in the last three years but had not been referred for pap testing.[8] Overall compliance with screening guidelines especially appears to wane after women leave child bearing years and no longer have regular annual visits to obstetrician- gynecologists.[13]

There has been a marked increase in the percentage of physicians recommending mammography in asymptomatic women according to ACS guidelines. In 1984, the percentage was 11 percent, and in 1989 it was 37 percent.[14] A 1990 CDC survey of health habits in 17 states found that 75 percent of women older than 40 have had at least one mammogram, up from 54 percent in 1987, 65 percent in 1988, and 71 percent in 1989.[15] However, a significant remaining reason some women are not undergoing the life saving test is that their physicians are not recommending it. A joint NCI-American College of Obstetrics and Gynecology study reported in 1990 found that 75 percent of women who had mammograms did so because their doctor recommended them; yet 50 percent of those who had not had mammograms said their physicians hadn't recommended them.[16]

The survey data suggest that opportunities exist in Charleston County for improved referral of women for cancer screening tests, particularly among those women who lack regular gynecologic care. Physician visits by women not in compliance with ACS guidelines for pap and mammographic testing represent opportunities for testing or referral. For primary care physicians and women, reminder systems have been described which can significantly increase physicians' performance of cancer prevention activities.[17-21] In addition, a simple, practical method is needed to enhance cancer testing referral of women who may not be regular patients by both primary care and nonprimary care physicians. One mechanism currently being explored involves a referral questionnaire which can be filled out by women while they wait in physicians' offices for care not necessarily related to gynecologic or breast problems. The results of this screening referral demonstration project will be reported in the future by the Charleston Chapter of the American Cancer Society.

SUMMARY

In order to increase awareness of the need for pap smear and mammographic cancer screening, the Professional Education Committee of the Charleston County Chapter of the American Cancer Society (ACS) separately surveyed Charleston County women and physicians regarding their use of women's cancer screening tests. Seven hundred and thirty-one women responded to a Cancer Screening Survey for Women. Women not complying with ACS guidelines for pap smears and mammography, when compared to women complying with the guidelines, were found to be twice as likely to be non-white, much more frequently lacked a regular physician or a gynecologist, more commonly lacked insurance paying at least in part for the test, and more frequently reported that physicians visited did not suggest pap smear or mammographic screening. Almost one-third of 75 responding physicians acknowledged not discussing pap smear and mammographic screening with their patients, a practice most often attributed to "specialization." Among physicians not referring women for needed mammograms or pap smears, roughly half also cited patient refusal, deferral, and oversight as reasons. The survey data suggest that a simple, practical, method is needed in doctors' offices to remind women of the need for periodic pap smear and mammographic screening, especially whenever women lacking a regular gynecologist seek any type of medical care.

The authors recognize that these samples of females and physicians are not necessarily representative of those components of the Charleston area overall. Nonetheless, the need for increased compliance with ACS standards for pap smears and mammography is clear. Further, because the females who replied to the survey are more likely to be higher in socioeconomic and educational status than those of the community overall, the results most likely understate the magnitude of non-compliance in Charleston.

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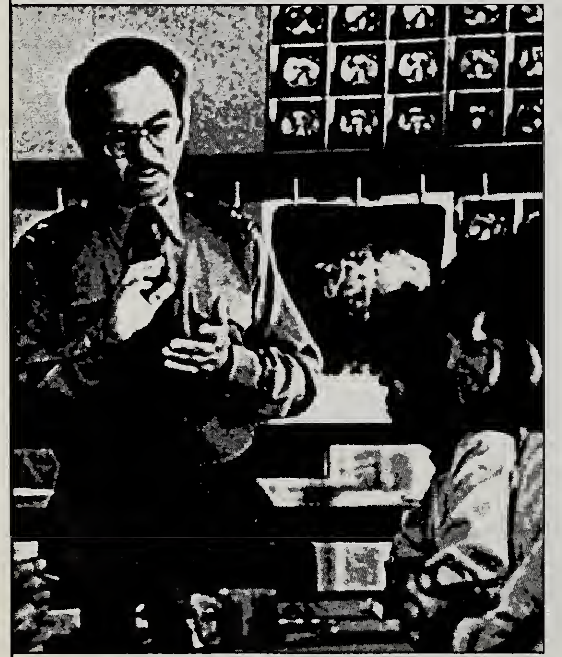

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DIAGNOSTIC OFFICE ARTHROSCOPY

JAMES W. YATES, JR., M. D.*

Knee pain is one of the most common presenting complaints in the orthopaedic surgeon's office. The initial workup is comprised of a good history, a thorough physical examination and routine radiographs. However, these may not always give a precise diagnosis. If they do not, additional diagnostic studies may be necessary. These include arthrograms, bone scans, MRIs, and arthroscopy. Several of these studies, specifically MRI and hospital based arthroscopy, are frequently too expensive and involve a significant time delay. This has led us to investigate an additional diagnostic modality—office based arthroscopy as a method to make timely, accurate diagnosis at a lower cost. Timely, accurate diagnosis is particularly helpful in athletes, as well as patients with medical legal concerns or Workers' Compensation claims.

Plain radiographs of the joint are routinely performed. These may add significant information, especially in cases where loose bodies, avascular necrosis, degenerative arthritis, fractures or even tumors may be found. Joint arthrography was used extensively in the past to supplement physical and historical findings, particularly for soft tissue problems. Significant difficulty was encountered with interpretation of these studies, leading to essentially complete abandonment of this technique. It is mentioned for completeness. Recently, the Magnetic Resonance Imaging scan has been utilized to assist in delineating meniscal and ligamentous pathology. It offers the advantage of being non-invasive, giving a good picture of the soft tissues as well as additional information about the bony structures. However, it has several disadvantages. These include considerable expense, low sensitivity to certain articular cartilage changes, and a significant degree of interpretative variability. Hospital based arthroscopy offers the advantage of high accuracy and sensitivity, but at significant expense. In addition, this frequently involves exposure to general anesthesia.

Office arthroscopy offers several advantages over traditional diagnostic methodology. It is significantly less costly. A local anesthetic is used. A high degree of diagnostic accuracy and sensitivity is available with this technique.

Central to the success of this technique is adequate instrumentation. There has recently become available commercially a 1.6 mm. flexible fiber optic arthroscope (Fig. 1). (Citation Medical Corporation, Reno, Nevada, U.S.A.) This allows satisfactory diagnostic evaluation of the joint structures. It is small enough that local intraarticular anesthetic agents provide satisfactory analgesia. The procedure is performed in the office utilizing strict sterile technique. A dedicated operating suite is preferable (Fig. 2). This allows maintenance of sterile technique and facilitates equipment setup. The procedure is carried out by performing an intraarticular injection of 30 ccs. of 0.25% Bupivicaine in the affected knee (Fig. 3). The portals for placement of the arthroscope and the outflow cannula at the anterolateral and anteromedial portals respec-

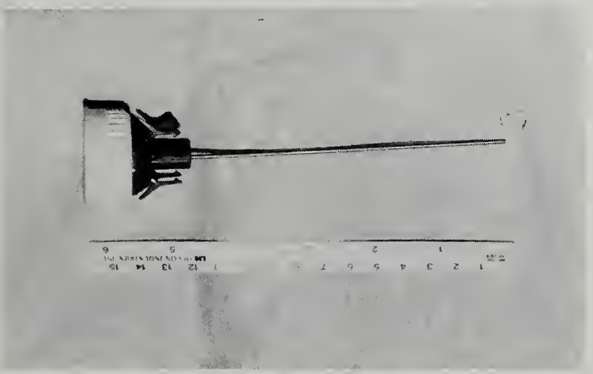

Figure 1. The disposable 1.6 mm Arthroscope for diagnostic office arthroscopy.

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*Coastal Orthopaedics Associates, 1400 Highway 544, Conway, SC 29526.

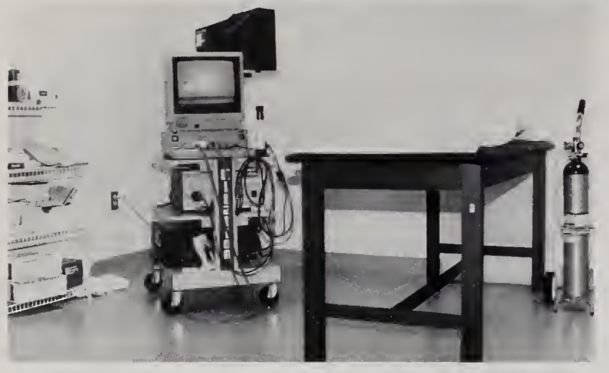

Figure 2. Equipment used in the office setting includes television, light source, camera electronic housing and table.

tively are also anesthetized with 1% plain Lidocaine. After approximately five minutes, the patient is assisted in ambulating to the operating suite where full sterile prep and drape are carried out (Fig. 5). The technique is similar to that used in operative arthroscopy (Fig. 4). The diagnostic arthroscope is placed into the anterolateral portal which has been previously anesthetized. The 18 gauge needle is placed into the anteromedial portal to act as outflow. A video camera is attached with sterile cover to the arthroscope. A 3-way stop cock is employed to allow intermittent irrigation from a 30 cc. syringe by a scrubbed assistant. The joint is systematically examined in the routine fashion. Examination of the medial compartment, the notch area, the lateral compartment and patellofemoral compartment can be accomplished (Fig. 6). Although excellent visualization of the joint structures is the general rule, this procedure can be technically demanding. It is advised that the surgeon be experienced in arthroscopy and has performed several of these procedures in the operating room under general anesthesia prior to attempting it in the office setting.

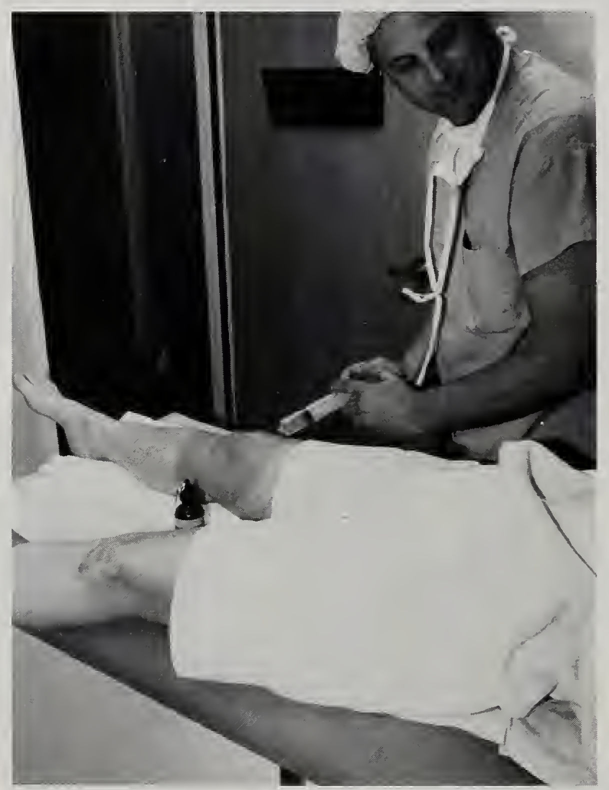

Figure 3. Local anesthesia is administered in a separate room and the patient walks to the operating area with assistance.

Figure 4. Full surgical scrub is performed by the arthroscopist.

A review of the author’s 25 initial cases was carried out. There were no anesthetic complications. No patients exhibited any vasovagal responses. One patient complained of mild discomfort during the procedure. There were no wound infections in this series. Five of the initial 25 patients were found to

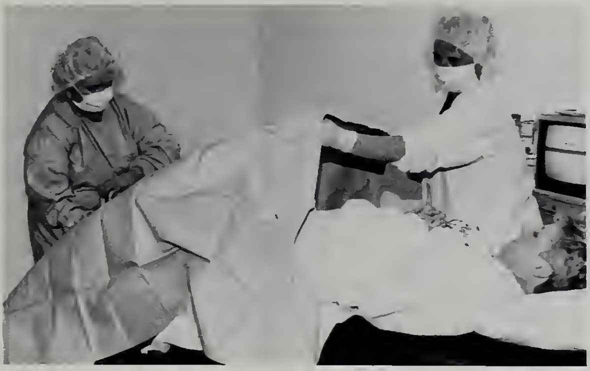

Figure 5. Sterile skin preparation and draping is similar to that used in the operating room.

have pathology requiring surgical treatment. These five patients were later taken to the operating room and appropriate surgical procedures carried out there. In one case there was severe synovitis, making adequate visualization impossible. This patient was later taken to the operating room and found to have a large flap tear over the posterior horn of the medial meniscus with severe synovitis.

Diagnostic office arthroscopy appears to be a safe, accurate and reliable method for diagnosing joint problems. It is most useful in problems related to the knee; however, examination of other joints may also be possible. It is particularly useful in athletes and in patients with legal or Workers' Compensation related problems. Third party payers have recognized the cost effectiveness of this technique and are providing adequate reimbursement for its performance at this point. There are certain equipment requirements. In addition, small diameter arthroscopy requires significant surgeon experience and expertise. The author's early experience indicates that office arthroscopy can be a simple, safe and reliable diagnostic modality. ❒

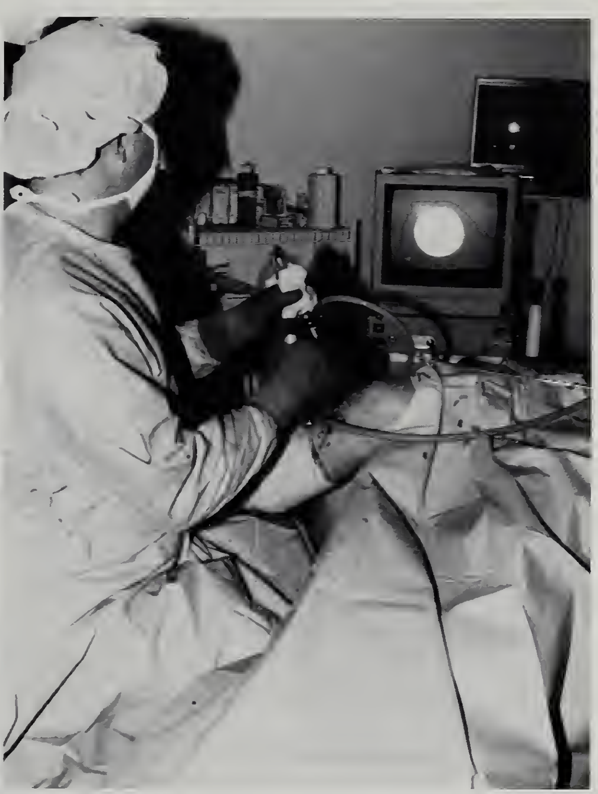

Figure 6. Adequate visualization for accurate diagnosis possible in the office setting.

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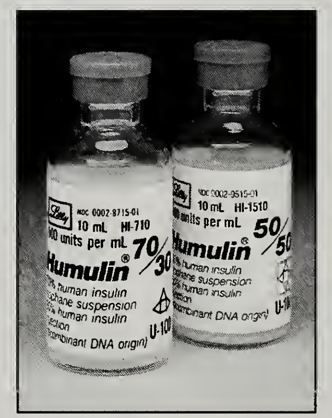

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COMBINED MODALITY THERAPY IN THE TREATMENT OF EPIDERMOID CARCINOMA OF THE ANUS AT THE MEDICAL UNIVERSITY OF SOUTH CAROLINA*

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BRIAN R. PITRE, M. D.

INTRODUCTION

Over the last 15 years, developments in the treatment of carcinoma of the anus have provided one of the most impressive advances in oncology. Epidermoid cancer of the anus is an uncommon disease with a somewhat deceptive clinical course. Throughout most of this century the abdominoperineal resection (APR), pioneered by Miles in 1908, has been the standard of care. Despite this aggressive surgical treatment and its resultant morbidity, cure rates were generally disappointing and local recurrence rates approximated 30 percent.[1,2] In 1974, Nigro et al. concluded surgical cure rates were unsatisfactory because of the rapid growth pattern and spread of the disease. Squamous cell carcinomas in other body sites were known to be radiosensitive. Also, chemotherapeutic agents were known to be effective against squamous cell carcinoma and to potentiate the effects of radiation. A protocol was begun to study the combined effects of giving 3,000 rads in three weeks with concomitant chemotherapy (Mitomycin C and 5-Fluorouracil). Abdominoperineal resection would follow in six weeks.

Their initial report was on three patients. All the patients had their cancers grossly disappear. Two patients underwent abdominoperineal resection with no cancer found in the specimen. The third patient refused surgery and remained free of disease.[3] Such unexpected success stimulated investigators to examine the use of these agents as an alternative to surgery. The work from this group and several other investigators[4,5] confirmed encouraging results and appeared to offer enhanced survival with a marked reduction in morbidity. The infrequency of this neoplasm has made the establishment of patient selection criteria, dosage and fractionation, the role of chemotherapy, and other parameters difficult to ascertain. This study reviews our patients with squamous cell cancer of the anus presenting at the Medical University of South Carolina since the introduction of this exciting aforementioned information and our own review of the topic.[6]

MATERIALS AND METHODS

Between 1982 and 1987, 10 patients were considered eligible for anus conserving therapy. Ages ranged from 39 to 66 years with a mean age of 54.6 years. The patient population showed a marked female predilection (8/10), and was equally divided in regard to race. Despite the readily accessible location of these tumors, 67 percent of our patients presented with stage III disease or greater; 56 percent with T4 lesions involving the posterior vaginal wall. Three patients were noted to have clinically involved inguinal nodes on presentation either unilaterally[2] or bilaterally.[1]

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TABLE I
AJC STAGE GROUPING

(0)	0	Tis	NO	MO
(2)	I	T1	NO	MO
(2)	II	T2	NO	MO
		T3	NO	MO
(3)	IIIA	T4	NO	MO
		T1	N1	MO
		T2	N1	MO
		T3	N1	MO
(3)	IIIB	T4	N1	MO
		Any T	N2	MO
		Any T	N3	MO
(0)	IV	Any T	Any N	M1

All patients had histopathologic documentation of squamous cell carcinoma and were staged according to American Joint Committee on Cancer (AJC) guidelines (Table I). The staging system developed by the AJC has only recently been widely employed (1988). We feel it is important that all carcinomas arising in the anal canal be so staged. Other staging systems should be abandoned for the best utilization of the published clinical material about this relatively rare cancer.

There were an equal number of keratin and non-keratin producing tumors, and this distinction was not related to stage at presentation.[7] All patients received pre-treatment chest radiographs; pelvic imaging studies were added when advanced clinical stage indicated.

TREATMENT

All patients received radiation therapy with concomitant chemotherapy as primary treatment. As our own experience as well as those nationally using this therapy increased, changes were made in the dosage and timing of both irradiation and chemotherapy. Two early patients with advanced stage lesions (T4) were treated with only 3,000 rads delivered in 15 fractions. Neither patient achieved a complete response and both went on to receive APR. Following this, all patients received a minimum dose to the pelvis of 4,500 rads. Additional patients presenting with bulky (5 cm) inguinal adenopathy underwent inguinal lymph node dissection prior to initiating definitive treatment. Other surgery beyond initial biopsy was confined to the two previously noted patients to whom a suboptimal radiation dose was delivered.

RESULTS

Treatment success was highly dependent on initial stage at presentation (Table II). The

TABLE II
PATIENT DATA

	Stage at Presentation					Therapy	Outcome
1.	O.W	3/82	T4N3	(K)	IIIB	RT/CT	Dead from AAA
2.	M.W.	8/82	T4N2	(K)	IIIB	RT/CT/AP (1)	NED
3.	F.T.	2/84	T4N	(NK)	IIIA	RT/CT	Dead from mets
4.	E.C.	9/84	T4NO	(K)	IIIA	RT/CT/APR (2)	Dead from mets
5.	L.B.	9/85	T3NO	(K)	II	RT/CT	NED
6.	WP	11/85	T1NO	(NK)	I	RT/CT	NED
7.	A.F.	2/86	T4NO	(NK)	IIIA	RT/CT	NED
8.	G.M.	4/87	T3N2	(NK)	IIIB	RT/CT/S (3)	NED
9.	A.M.	7/87	T1NO	(K)	I	RT/CT/S (4)	NED
10.	R.F.	10/89	T3NO	(NK)	II	RT/CT	NED

**PLEASE NOTE: The notation (K) or (NK) following the state denotes keratin production or lack thereof. RT, CT, S and APR stand for radiation therapy, chemotherapy and surgery. NED = no evidence of disease.*

four patients presenting with limited stage disease (AJC stage I & II) are all alive and disease free an average of four years from treatment. Two of these patients had lesions measuring 2 cm on presentation, the third had a bulky 6 cm lesion not involving any adjacent structures.

(1) Patient received only 3,000 rads. APR was required for residual disease.
(2) Patient developed distant mets. (lung) within weeks of completing therapy.
(3) Patient received inguinal node dissection for positive N2 disease prior to undergoing definitive therapy.
(4) Patient received two local excisions both of which resulted in local failure prior to receiving RT/CT.

Of the remaining six patients with advanced stage III & IV presentation, three are alive and disease free an average of four and one half years post therapy. A fourth patient died without evidence of disease shortly after therapy from an abdominal aortic aneurysm. The remaining two patients died of metastatic disease. The first developed clinically apparent lung metastases immediately after completing treatment of the primary lesion. Local control of disease had been obtained. The second patient also died from pulmonary metastasis 18 months post-therapy.

COMPLICATIONS

Toxicity of therapy was confined to short term complications and resulted in no long-term morbidity. Skin reaction consisting of erythema and desquamation from radiation treatment was the most common side effect and occurred to some degree in all patients. This was severe enough to warrant a treatment break in three patients. Diarrhea was the second most frequent complaint, and was felt to be secondary to the combined modality therapy. This was easily controlled in all patients with outpatient medication. Complications attributed to the chemotherapy included significant myelosuppression in four patients, one of whom required a treatment break. Blood counts in all patients gradually returned to normal after completion of therapy. Mucositis attributed to 5-FU was also seen in two patients, but was symptomatically managed on an outpatient basis. No patient suffered any long-term complications relating to anal stricture or dysfunction. No other long-term complications were noted in any patients with the exception of permanent unilateral leg edema in the single patient who underwent inguinal lymph node dissection.[8]

DISCUSSION

Anal cancer has provided an exciting model for organ sparing oncological therapy. Combined modality treatment has offered an outstanding alternative to radical surgical resection. While the uncommon incidence of this tumor makes single institution care studies difficult, some conclusions may be drawn from our available data. Early stage lesions (AJC I & II) are quite amenable to anus conserving treatment. Successful results at our institution parallel those from other investigators, and have led to a combined radiation and chemotherapy as the standard of care in these patients.

Advanced lesions are somewhat more of a problem. While the overall survival rates are not as encouraging, deaths appear secondary to metastatic disease and not local failure. The probability of achieving local control in very advanced (T4) lesions was impossible to determine in our study secondary to limited patient numbers and survival times. It is noteworthy that local control was at least initially achieved in all patients except the one receiving a sub-optimal radiation dose of 3,000 rads. However, the limited assessment time in those patients with metastatic disease must be considered. The decision to offer these patients anus conserving therapy rather than APR remains in question. If patients with T4 lesions are to be considered for anus sparing therapy, it is mandatory they be followed closely by surgeons willing to operate on an irradiated pelvis should salvage be necessary.

There was no discernible prognostic difference between tumors which produced keratin and those which did not. While initial studies in carcinoma of the anus suggested a correlation of malignant potential with cellular keratin production,[5] other investigations have failed to support this hypothesis.[6] At present, it appears parameters of tumor size and location will supersede consideration of histologic variants in treatment decisions and results.

SUMMARY

Treatment of anal epidermoid carcinoma by radiation and chemotherapy does offer an excellent opportunity to maintain quality of life.[7] No patient in this series suffered long-term complications; and all have maintained rectal, anal, and sexual function. Patients with early stage lesions (AJC I-II) are most amenable to anus conserving therapy for epidermoid cancer of the anus. The success rate is markedly diminished in patients having more advanced disease, with patients possessing AJC stage III and VI disease presenting major problems. The possibility of post operative radiation therapy is markedly compromised by preoperative radiation therapy. Clinical surveillance and early recognition of these lesions by primary physicians can now offer patients with lesser stage cancer of this type excellent opportunity for organ preservation therapy. For those patients presenting with Stage III and VI carcinoma of the anus the afore-mentioned problems should be addressed and discussed before initiating conservative therapy. ❐

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A STRATEGIC APPROACH FOR PAIN MANAGEMENT IN CANCER PATIENTS

CHARLES G. SASSER, M. D.*

In spite of significant advances in the undergtanding of analgesic use and related technologies, the under treatment of patients in pain associated with advanced malignancy and other life threatening diseases remains a major medical problem. It has been estimated that in developed countries, 50 to 80 percent of cancer pain is not adequately treated.[a] Identified barriers to adequate palliative care, especially narcotic use, includes: inadequate understanding of analgesic pharmacology and methodology by health care professionals; fears of addiction by patients and families as well as health care workers; and fears of elicit use by society in general.[b]

Although chronic pain is experienced by about one-third of all cancer patients and by 70 to 90 percent of those with advanced cancer, intervention with readily available and often simple therapies have been shown by the World Health Organization (WHO) to effectively control 80 to 90 percent of cancer pain.[c]

The algorithm which appears on the following two pages demonstrates the inexhaustible nature of aggressive palliation in which, rarely, is there a situation where no further options are available. Most cancer pain will be controlled using the WHO analgesic ladder depicted in the initial stages of the algorithm. Straightforward in concept, treatment is begun with NSAIDs, followed by the addition of mild opiates +/- adjuvants, later switching to more potent opiates as the need arises. After aggressive attention to the management of analgesic side effects, the remainder of the algorithm deals with those 10 to 20 percent of patients unresponsive to the WHO ladder.

It is important to note, in the normal flow of treatment selection, the need for nonmedical disciplines such as social work and pastoral care, which reflects the multidimensional nature of chronic pain. Hopefully, these disciplines would be employed in a team setting, where information could be shared and therapeutic decisions integrated, balanced and made consonant with the wishes and values of patient and family. ❐

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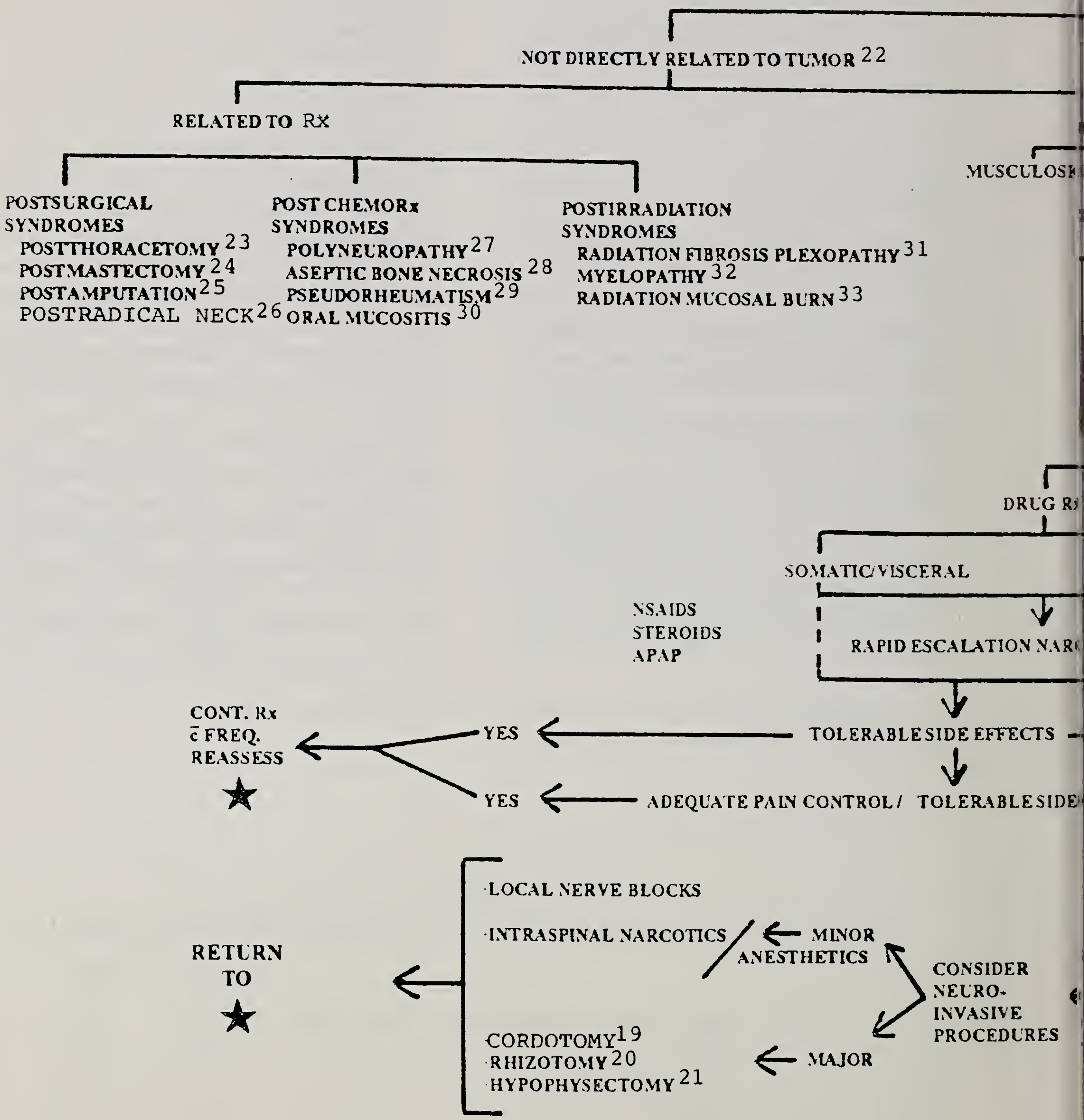
TABLE 1
EQUIANALGESIC DOSES OF NARCOTICS TO MORPHINE (STEADY STATE)

					EQUIVALENT DOSE	
DRUG	RATIO	ONSET (MIN)	DURATION (HRS)	PEAK (HRS)	I.M.	P.O.
Morpphine	1:1	15-60	3-5	.5-1	10	20-30
Oxycodone	1:1	15-30	3-5	1	NA	10-15
Dilaudid	6:1	15-30	3-5	.5-1	1.5	10-15
Codeine	1:8	10-45	2-3	.5-1	75	300
Methadone	3:2 (4:1)	30-60	6-8	.5-1	10	20
Fentanil	100:1	7-8	1-2	nd	.1	NA
Levoprome	1:2	nd	4-6	1	20	NA

STRATEGIC APPROACH FOR P



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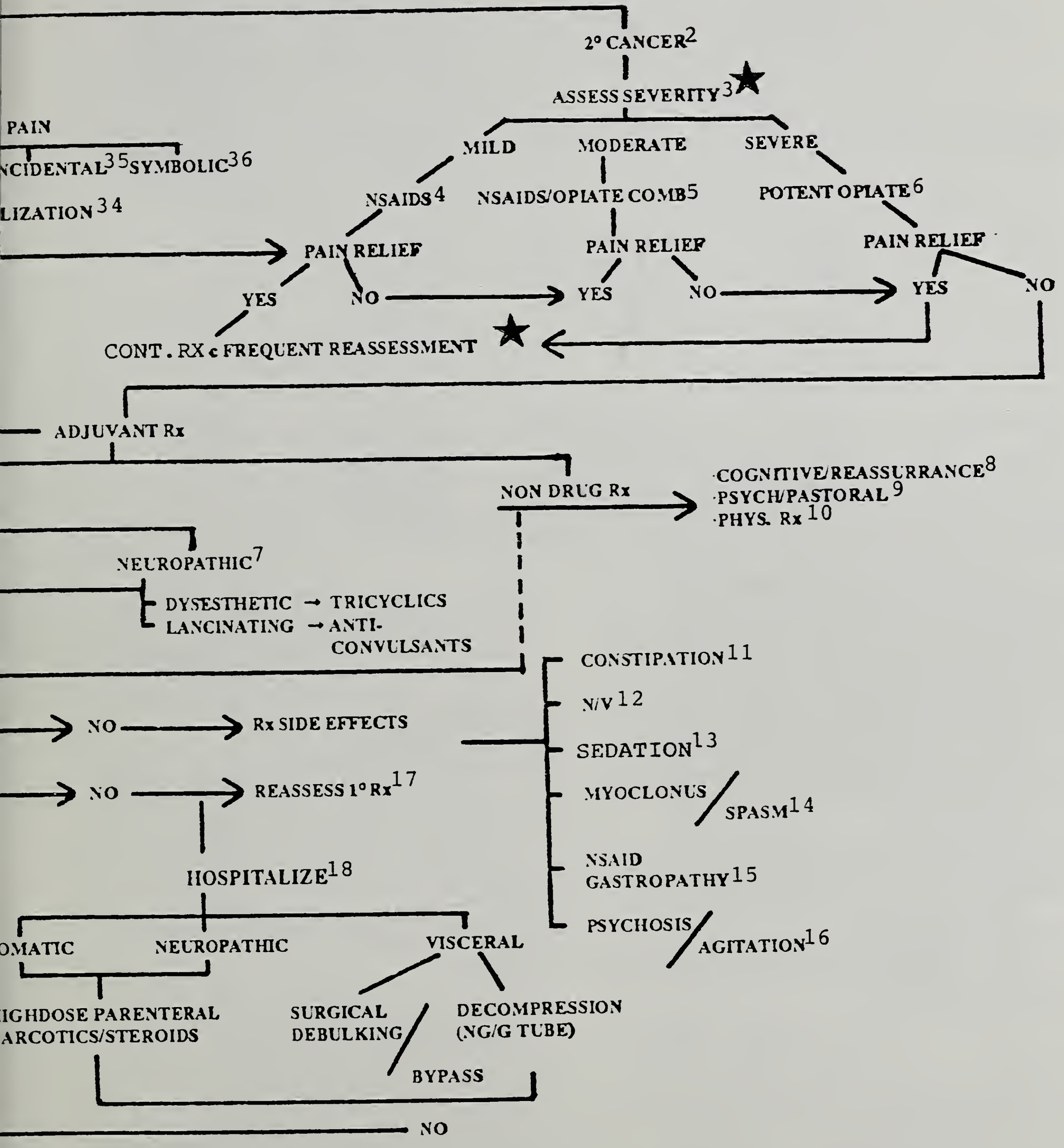
E.MENT IN CANCER PATIENTS*



AIN & SYMPTOM MANAGEMENT, VOL 1, NO. 4

TABLE 2
TYPES OF CANCER PAIN

	1. Somatic	2. Visceral	3. Neuropathic	4. Mixed
CAUSE	Stretching/ infiltration pain receptors in skin & deep tissues (bone, etc.)	Stretching of pain receptors in Visceral organs chest/ ABD. cavities (pleura, liver, etc.)	Injury to nerve root/CNS 2^{o} infil/compression or 2^{o} injury from surgery, chemotherapy, irradiation	Any combination of 1-3 which, in addition, may be complicated by sympathetically maintained pain, which is severe, burning in quality, and associated with dysesthesias and hyperpathia
LOCALIZATION	Well localized	Poorly localized, Often referred	Radiates along specific nerve pattern	
CHARACTERISTICS	Constant, dull, gnawing, aching	Deep, pressure, cramping, gas, squeezing, often associated with N/V	Constant, dull, squeezing, or aching with paroxysms of intense burning or electric shock-like sensations	
TREATMENT	Rx tumor, analgesic nerve blocks, neuroinvasive procedures	Rx tumor, analgesics, nerve blocks, decompressive procedures	Rx tumor, analgesics, adjuvants (tricyclics) nerve blocks, neuroinvasive procedures	Sympathetic blockade

FOOTNOTES TO ALGORITHM

1. Is pain a significant problem? Then what is the cause?
   A. Types of cancer pain (Table 2).[d]
   B. Routine diagnostic evaluation to determine if pain directly related to cancer.[e]
2. Assess effectiveness of current anti-tumor therapy.
3. Assess severity – McGill PPI scale.[f] Select therapy to match level of pain, not etiology of disease.
4. Analgesic ladder.[g]
   Equianalgesic Dose Chart (Table 1).[h,i]
5. All NSAIDs[j] and some narcotics,[k] e.g. codeine, Meperidine (Demerol), Pentazocine (Talwin) exhibit an analgesic ceiling effect or are poorly tolerated at high dosages.
6. Four available narcotics without analgesic ceiling effects: Morphine, Hydromophone (Dilaudid), Methadone, Fentanil.
7. Tricyclics:[l] e.g. Amitriptyline (Elavil), Imipramine (Tofranil); Desipramine (Norpramin); Anticonvulsants:[m] e.g., Carbamazepine (Tegretol).
8. Realistic yet sensitive description of clinical situation which serves to "cut the pain down to bite sized pieces" (Twycross).
9. Psych/Pastoral: Insight therapy; family conflict resolution; Positive Reminiscence; exploring the meaning of suffering; development of transcendent hope.
10. Pressure, massage, range of motion, heat, ice, etc.
11. Bowel regimen protocol.[n] If ileus is secondary to narcotic bowel syndrome, consider Levoprome (analgesic phenothiazine, also antiemetic; watch for excess sedation, orthostatic hypotension, liver toxicity).[l]
12. Antinausea regimen.[o]
13. Consider (l) switching primary analgesic (Remember that cross tolerance is incomplete so when switching analgesics, start at 1/2 - 2/3 previous equianalgesic dose – refer to Table 1), (2) DC tranquilizer, (3) add stimulant, in order of preference: caffeine, methylphenidate (Ritalin), Dexadrine.[p]
14. Consider switching primary analgesic; anticholinergic, e.g., oxybutynin (Ditropan) for bladder spasm.
15. Misoprostol (Cytotec); H2 blockers. (Avoid Cimetadine (Tagamet) which competes with narcotics for metabolic enzymes and may significantly increase narcotic blood levels.)
16. Switch primary analgesics; Haldol; with sisnificant agitation, consider Midazolam (Versed). S.Q. infusion.[q] Barbituates I.V. infusion.[r]
17. Reconsider: (1) primary analgesic; (2) switching routes of administration; (3) antitumor therapy.
18. Indications for hospitalization:
    1. Extensive testing/observation to help

reassess nature of uncontrolled pain/ side effects.
  2. Need to switch to parenteral narcotics, teach patient/family, find optimal dose, reassurance.
  3. Need for invasive diagnostic/therapeutic procedures when outpatient approach may be too exhausting to patient.
  4. Need for environmentectomy.

19. Cordotomy: Surgical or electrical ablation of lateral spinothalamic tracts.[s,t]
    Best candidates: Unilateral lower extremity pain secondary to plexus invasion by rectal/gyn cancer with less than one year prognosis (a late complication: dysesthetic syndrome. There is also a steady decline in level of analgesia so that only 50 percent maintain pain relief at end of one year. In addition, deafferentiation pain rarely responds.) Consider bilateral cordotomy in patients with midline syndromes who have lost bowel and bladder function.
20. Rhizotomy: Section of dorsal nerve roots.
    Best candidates: Those demonstrating a specific dermatomal distribution of pain in chest well below brachial plexus (C5-Tl). Also isolated cranial nerves (e.g., V, X, etc.) in head and neck cancer. Sacral rhizotomy for sacral plexus invasion also effective.
21. Hypophysectomy: transphenoidal injection of alcohol directly into pituitary gland.
    Best candidates: Diffuse bony mets secondary to cancer breast or prostate. Mechanism of pain relief unknown.
22. Pain not directly related to cancer.[u]
    15-20% secondary to treatment.
    5-10% secondary to some other cause.
23. Postthoracotomy.
    Three Groups:
    1. Early improvement, then recurrent pain.
    2. Progressive pain after surgery (these two most likely due to tumor recurrence).
    3. Persistent stable pain: Secondary to damage to intercostal nerve.
    Quality of pain same in three groups, usually burning.
24. Postmastectomy – prolonged pain postop, usually secondary to damaged intercostobrachial nerve. Burning pain in axilla, medial upper extremity and anterior chest wall – may follow radical mastectomy or lumpectomy. Immediate or three months postop.
25. Post amputation syndrome.
    A. Stump pain: Traumatic neuroma – local anesthetic often gives prolonged relief.
    B. Phantom pain: Continuous dysesthesias with lancinating component.
26. Post radical neck pain – tightness in neck and jaw, burning and lancinating. Look for recurrent tumor and if absent, treat as neuropathy.
27. Polyneuropathy – some drugs are neurotoxic (Vincristine) and improve with discontinuation of drug.
28. Aseptic necrosis of bone – (some chemotherapy drugs, steroids).
29. Pseudorheumatism – diffuse arthalgias secondary to too rapid tapering of steroids.
30. Oral mucositis – treat with local measures, parenteral narcotics, etc. Usually self-limited.
31. Radiation fibrosis plexopathy: Much more often due to tumor progression. If secondary to radiation, look for lymphedema and skin changes.
32. Myelopathy – uncommon – must distinguish from tumor progression.
33. Radiation induced oral mucositis and proctitis more common.
34. Musculoskeletal/immobilization: decubiti, degenerative joint disease, frozen limbs, disc syndromes, myofascial pain syndromes.
35. Coincidental Pain: Circulatory – diabetic neuropathy, ischemic claudication; Herpes Zoster; Tension/stress syndromes.
36. Symbolic Pain: The subconscious relocation of intolerable pain to that site of the body best symbolizing what the illness means to the patient, regardless of the anatomical characteristics of the illness. Symbolic healing takes place when the meaning of the pain (from whatever source) is altered in a positive direction.[v]

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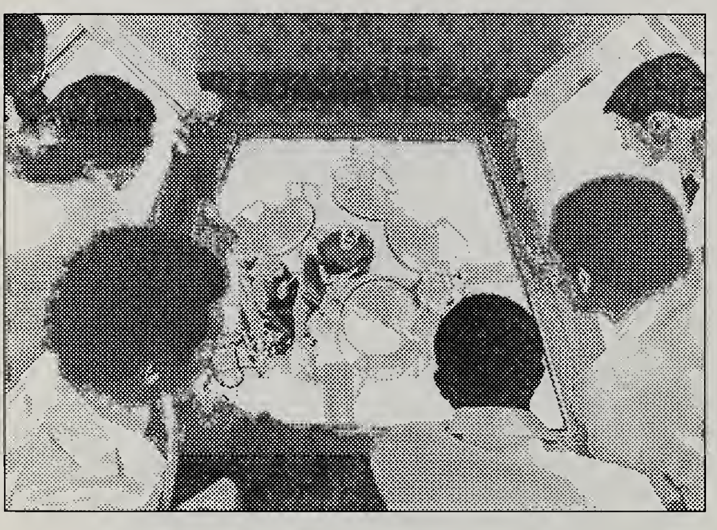

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Editorials

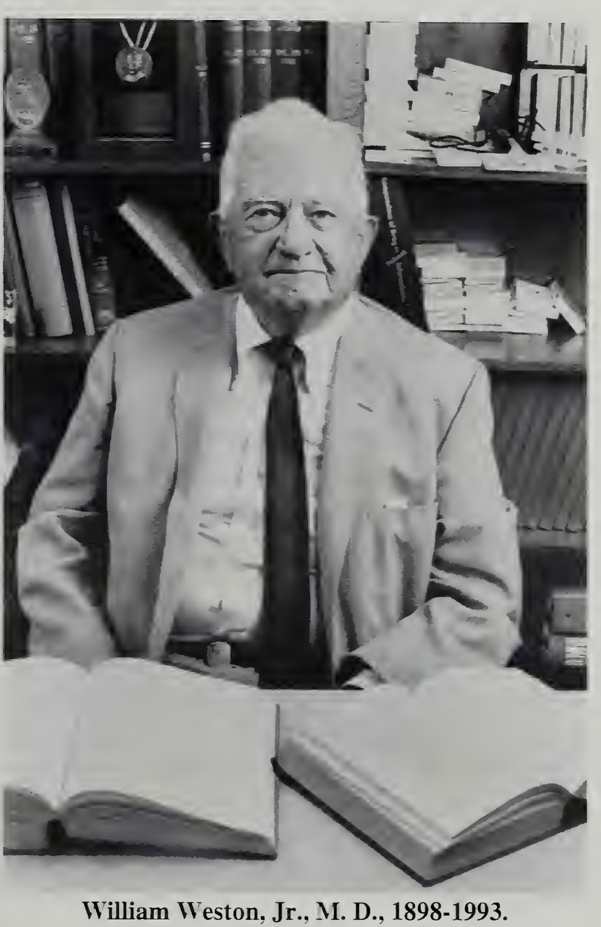
DOCTOR WESTON

He once asked me to call him "Bully" but I never could, for reasons I'm just now beginning to understand.

It was not because of the achievements that warranted a front page obituary, impressive though they were. He did it all: practiced medicine for more than half a century; held the highest offices in both county and state societies; ranked nationally in his specialty; responded to the needs of his city, school, and people when called. He was proudest, of course, of his family—three children, 11 grandchildren, and five great grandchildren, all handsome and good as gold. Both sons became not only third-generation pediatricians but also leaders in the profession, Bill the professor, Nelson the chairman of our own Board of Trustees. But all of these things were done or set in motion long before I really knew him.

It was not because of his personality, his energy and effervescence, his charm and charisma, laced with obvious love of humanity. He was always moving forward, even in adversity. And was he ever fun! There was, for example, the time Helen Hayes came to town and we stood around waiting to see what would happen when the two twinkle-eyed octagenarians met. He began with bird call imitations, then crescendoed into his trademark yodel routine. Completely upstaged, the great actress gasped: "My, you're quite a man!" "Yep, I still am… from the waist up!" There was the time, just before the end, his mind slipping, when I asked him the secret to his longevity for want of a better opener. "I've lived like a cricket—they stay awake and don't try to fool anybody." How wise, how original!

Put simply, it was his ability to touch lives. Scores, perhaps thousands, must have benefitted from this gift, and I consider it my infinite good fortune to have been among them. Reader, mark this well: had it not been for the South Carolina Medical Association, the events described below would not have come to pass.



William Weston, Jr., M. D., 1898-1993.

In brief, expressing interest in *The Journal* to Ed Kimbrough one morning in 1975 caused a concatenation of events that led to my being named to the Executive Committee of the newly-formed Waring Library Society at the Medical University of South Carolina. The appointment was, I thought, largely honorary: "We really don't expect you to come all the way to Charleston just for the meetings, just come whenever you can." But another delegate from the backcountry, the late Dr. Waring's longtime friend, was retired and had other ideas. "Charley, why don't we go down to the meeting next month?" What could I say?

To be sure, I had known him or at least of him ever since the Great BB Gun Fight when the excavation for his new house on Adger Road served as a bunker (luckily, we were lousy shots). His office was in the same building as my father's, and I treasured his kind words when Dad died. Entering practice, I heard that he was a kindly but exacting man. One of my partners confided a hard-earned lesson in professional etiquette: "Son, when you call another physician you dial that telephone yourself, don't you have your secretary keep him waiting!" He worked and played by all the rules and, unlike most of us, wasn't afraid to speak his mind. I found him delightful but never really began to know him until the morning of our expedition.

I looked forward to the trip but experienced last-minute pangs of ambivalence, precipitated no doubt by my unfortunate selfishness about time and the usual list of things-to-do. Bob McCardle said just the right thing: "Five years from now, you'll remember going to Charleston with Bully Weston better than you'd remember anything else you might do today." It became the understatement of a lifetime.

The minutes of the Waring Libary Society recorded that "they came all the way to Charleston just for the meeting!" But for us, the trip had just begun. On the way back his reminiscences began to soar, and he invited me to dinner at his club. The place was empty except for one table of lingering dowagers, and we were told in no uncertain terms that the kitchen had closed. He held the line and prevailed. They brought out some leftovers, and we had a grand time. Thereafter, he included me in various activities and I always looked forward to being with him. He was incredibly thoughtful.

Time passed. One fall day, he invited me to accompany him and his wife to the Colonial Cup. I accepted, but not because I really wanted to spend an entire Saturday among the jovial steeplechase set. My private life back then was filled with excruciating pain. Reeling from divorce, concerned even about survival, I had turned to woodworking for sublimation and would have preferred to spend the day with the beginnings of a four-poster bed, alone. But I resolved to make the best of it. We were heading out Two Notch Road toward Camden, the three of us, when suddenly and without warning he turned left into a subdivision and said casually, "We've got to pick up Donna." Donna? A year later, he was best man.

There were more good years, then the decline. Visiting the nursing wing, more often than not I would find him asleep. Sometimes I would just stand there or sit, watching him breathe, realizing that nothing that I could do would even begin to repay him. Nothing, that is, except to carry on.

It was not the hearty greetings, the shared friends and family, the wonderful outings, the companionable rounds of golf, the innumerable small favors, the festive occasions, the stories told and re-told, nor even the unannounced blind date. It was something visceral, essential, and difficult to convey in words. Perhaps it is best captured by a tale that wells up from the primordial mist, told for thousands of years in many versions in many tongues in many lands. Basically, it goes like this. The young man enters the forest to face the wild boar. If the old men, the grandfathers, are watching, he survives. If not....

William Weston, Jr., M.D., 1898-1993. Doctor Weston. Thank you.

—CSB

GUEST EDITORIAL: NEURAL TUBE DEFECT PREVENTION THE FOLIC ACID STORY

Guest editorials reflect the opinons of the authors and not necessarily the opinions of the Editorial Board and the leadership of the SCMA.

Neural tube defects represent one of the most common congenital anomalies and are particularly frequent in South Carolina with one to two out of a thousand newborns affected, an incidence about twice the overall national risk. It is believed that both genetic and environmental factors contribute to the formation of neural tube defects with a number of observations suggesting inadequate nutrition and certain vitamin deficiencies as major environmental contributors. A deficiency of folic acid, in particular, has been considered because prenatal use of folic acid antagonists, such as aminopterin, has been associated with a high risk for neural tube defects.

In 1991, the Medical Research Council of the United Kingdom reported their findings that folic acid supplementation of 4 mg daily prior to conception and until 12 weeks gestation reduced the recurrence of neural tube defects in women who had a history of a previous pregnancy in which the baby had a neural tube defect. In these high risk pregnancies there was a 72 percent reduction in the occurrence of neural tube defects compared to pregnancies in control groups of women. With this information, the CDC recommended in 1991 the supplementation of folic acid for women with the history of a prior pregnancy in which the baby had a neural tube defect. However, 90 to 95 percent of newborns with neural tube defects are born to mothers without a prior history of a neural tube defect. Presumably the risk factors are the same for families with and without a prior history of a neural tube defect, but until recently there had been no study of folic acid to prevent first occurrences of neural tube defects. A Hungarian study by Cziezel recently confirmed that folic acid supplementation preconceptionally and into the first trimester significantly reduced the occurrence of neural tube defects in women with no prior history of a neural tube defect.

Based on data from these and prior studies, the CDC now recommends that all women of

TABLE 1

For all women of childbearing age

Daily use of a multivatmin containing 0.4 mg of folic acid (such as Stresstabs, Theragran, Unicap, Femiron, Myadec, and others) or 0.4 mg of folic acid alone by prescription. This amount should be continued for at least the first two months after conception.

For women who have had a previous pregnancy in which the baby had a neural tube defect

Daily use of a multivitamin containing 0.4 mg of folic acid except during the time one is actively trying to become pregnant at which time the dose should be change to 4 mg of folic acid per day. After conception the 4 mg dose of folic acid should be continued for at least two months. This dose must be obtained by prescription. (CAUTION: the 4 mg folic acid dose should not be achieved by taking additional multivitamin tablets because of the potential of excessive intake of other vitamins.)

childbearing age should take a folic acid supplement daily, as indicated in Table 1. Note that it is recommended that women with a previous pregnancy in which the baby had a neural tube defect should take the higher 4 mg per day dose during the time they are actively trying to concieve and for the first two months after conception.

Also of note is the importance of not obtaining the 4 mg amount of folic acid by taking additional multivitamin tablets, as an overdose of other vitamins such as A and D could result.

With implementation of population-wide folic acid supplementation in the prevention of neural tube defects, there will be concerns about the safety of folic acid supplementation in high doses. While there has been no documentation of an increased risk for adverse outcomes when folic acid has been used for neural tube defect prevention, theoretical risks which require further study include the masking of pernicious anemia, a potential increase in seizures in patients taking valproic acid, and a disturbance in zinc metabolism.

A cooperative project between the Greenwood Genetic Center and the Centers for Disease Control has begun with the purpose of detection of all NTDs in South Carolina, the prevention of recurrences of NTDs through folic acid supplementation, and the identification of heritable, environmental, or other features that may contribute to the causation of NTDs. For further information concerning neural tube defects and folic acid supplementation call the SC Neural Tube Defect Prevention Initiative, Roger E. Stevenson, M.D., Project Director, or Jane Dean, R.N., Project Coordinator, at 803-941-8137.

William P. Allen, M. D.
Greenwood Genetic Center
One Gregor Mendel Circle
Greenwood, SC 29646

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Letters to the Editor

To the Editor:

I have enclosed a poem that a patient gave to me. This was written by Mrs. Etta Smith Martin, and she is very concerned about her husband's addiction to cigarettes. She wrote him this poem and brought it along for me to read. I found it very moving and emotive, and I would like you to please consider this for inclusion into *The Journal* with the appropriate credit given.

Walter D. Leventhal, M. D.
299-A Midland Parkway
Summerville, SC 29485

The Pale Horse

He goes into his secret place
to visit with me.
I come closer to him,
checking every puff as he draws,
Planning his agony and defeat.

How many ways can I take your life?
Do I eat away at you through cancer?
Do I destroy your lungs one inch at a time
until there's nothing left to give you breath.

I want you.
I can't wait to have you.
You rush out to the store and pay
fourteen, fifteen dollars a week or more
to puff a little closer to me.

Oh look,
you're taking a deep draw.
Inhaling so deeply,
filling your lungs through your nose.
I've got your nose running.
your lungs dying
You're coughing.

Soon my impatient soul…, I will come for you.

Etta Smith Martin
December 2, 1992

To the Editor:

We would like to alert your readers to an excellent discussion on the new thinking on asthma. The publication is entitled "Guidelines for the Diagnosis and Management of Asthma" prepared by the U.S. Department of Health and Human Services, National Institute of Health.

The publication is detailed and comprehensive. It runs to 136 pages. Basically, the publication reviews the new thinking about asthma; i.e., asthma is an inflammatory disease more than a bronchospastic disease. This new thinking on asthma should also change how we treat asthma in that recommended now are antiinflammatory drugs such as Cromolyn and corticosteroids rather than the former building blocks of bronchodilators.

There are excellent chapters on the definition and diagnosis of asthma, asthma mortality and morbidity statistics, allergies and asthma, patient education in asthma, the management of asthma, and the management of acute and emergency exacerbations of asthma.

The publication is available through the National Asthma Educational Program; c/o Office of Prevention, Education, and Control; National Heart, Lung, and Blood Institute; National Institute of Health; Bethesda, Maryland 20892. This is Publication No. 91-3042, August 1991.

The publication may also be obtained through several drug companies (Allen & Hanburys, Forest Pharmaceuticals, Rorer, Shering, and Upjohn).

Thank you for your kind attention to this important advance in review of our current understanding and thinking about the diagnosis and management of asthma.

Stephen A. Imbeau, M. D.
William Hazelwood, M. D.
514-G S. Dargan Street
Florence, SC 29503

On the Cover:

50 YEARS AGO

1943....The whole world is occupied and preoccupied with war. FDR and Churchill meet at Casablanca. Patton invades Sicily. Italy surrenders unconditionally. Mussolini abdicates.

On the homefront, housewives and children do their bit by collecting rubber, metal and paper for recycling, and kitchen fats are exchanged for ration points. Meat is rationed to 28 ounces per person per week; butter to four ounces; cheese to four pounds. Each person is allowed three pairs of shoes per year. Sneakers are unavailable because of the rubber shortage.

Casablanca wins best movie of the year. Top box-office stars are Betty Grable, Bob Hope, Abbott and Costello, Bing Crosby, Gary Cooper, and Greer Garson. In the biggest non-war related news, *Oklahoma* opens on Broadway and soon everyone is singing "Oh What a Beautiful Mornin,'" "People Will Say We're in Love," and "Surrey with the Fringe on Top."

In medicine, streptomycin is discovered and the term "antibiotic" coined. Sulfa is credited with an extraordinary reduction of U.S. Army fatalities, and Xylocaine is developed.*

The Annual Meeting of the AMA fails to endorse the commissioning of female physicians by the armed forces.

In South Carolina, the Annual Meeting of the SCMA is canceled because of the workload of the physicians of the state and because of gas rationing. The Medical College of the State of South Carolina enters upon an accelerated program, operating continuously and without the usual summer vacation, thus allowing the completion of the four-year course in three calendar years. In 1943 two classes will graduate, one in March and one in December.

They are addressed by Robert Wilson, M.D., "The Dean:" "...the broad sameness of the human lot... never alters in the main headings of its history: hunger and labor, seedtime and harvest, love and death, and as long as these things shall be, the science and art of medicine will continue to be a dynamic force as well as a beneficent humanizing influence in the world. As doctors and nurses it becomes your obligation to carry on the great tradition of our profession."

Betty Newsom
The Waring Historical Library

*Lois Gordon and Alan Gordon. *American Chronicle: Seven Decades in American Life, 1920-1989.* New York: Crown Publishers, 1990.

Alliance Page

1992 – 93 SCHOLARSHIP AWARD WINNERS SCMAA – SCIMER

It was the joint pleasure of the SCMA Alliance and SCIMER Scholarship Committees to award 14 $1,200 scholarships to very deserving students – seven from the Medical University of South Carolina and seven from the University of South Carolina School of Medicine.

Thus far from its beginning in 1982, a total of 104 students have received scholarships totaling $95,000. In 1982, two scholarships of $750 each were awarded. Eleven years later in 1993, 14 scholaships of $1,200 were awarded. Selection for these scholarships is determined by financial need, academic standing, extracurricular involvement, and interpersonal skills. All students interviewed were outstanding and deserving of an award.

Dr. Alexander Donald, President of SCIMER, and Janelle Othersen, Co-chairman of the SCMAA Scholarship Committee, presented the awards at the House of Delegates Meeting on Sunday, April 25th, in Charleston.

Winners of The 1992-93 Scholarships from the Medical University of South Carolina were Kristin Clontz, Surfside Beach; Stephen Ridgeway, Laurens; Jodie L. Player, Johnsonville; Tricia Etheridge, Ridgeland; Taylor Williams, Greenville; Adam Barta, Charleston; and Christina LoPresto, Charleston.

University of South Carolina School of Medicine recipients were Rhonda S. Todd, Laurens; James R. Wharton, Columbia; Patti A. Kirby, Honea Path; Jerri Lynn Shealy, Prosperity; Laura M. Ledlie, Columbia; A. Michelle Gooch; Columbia, and Kristin K. Strange, Columbia.

Two scholarships of $1,000 were also given by Spartanburg Cardiovascular Consultants to Kristin V. Adams and Tony S. Poteat, both from MUSC. Anthony J. Viera received the Bamberg County $2,500 Stuckey Memorial Scholarship; Darin V. Sutton the $1,000 Conway Hospital Medical Staff Scholarship; and Bennie M. Fulbright won the $1,000 SCIMER Research Scholarship Award.

Janelle Othersen (Mrs. H. Biemann, Jr.)
SCMAA Scholarship Committee Chairman

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American Heart Association

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President's Page

FEE-FOR-SERVICE MEDICINE

Fee-for-service medicine is under increasing attack on a number of fronts. Forewarned is forearmed. At the recent 1993 South Carolina Health Care Summit in Columbia, Ed Sellers, President and Chief Executive Officer of Blue Cross and Blue Shield of South Carolina, vigorously and vehemently attacked the concept of fee for service. "If we don't fundamentally undermine fee for service, we will have lost the battle," said Mr. Sellers, who presented the position that fee for service is among the most powerful forces pushing up the cost of health care. It should surprise no one that Blue Cross and Blue Shield of South Carolina, a physician-established organization, no longer retains even a single physician on its Board of Directors.

Although a specific alternative to fee for service wasn't advocated, included would be: salaried physicians, a fee schedule (national or geographic), or some type of capitated contract. These approaches compromise physicians' autonomy, provide the financial jeopardy of having to provide more services than we are paid for, and interfere with patient freedom of choice.

Physicians, as professionals, should be reimbursed for medically necessary services actually performed. The American Medical Association and the American Society of Internal Medicine have both developed proposals which would assign each physician service a nationally set relative value, based on a refined version of the Medicare Resource Based Relative Value Scale. Then the insurer and the physician would each set an across-the-board conversion factor for all services. Although many physicians are wary of any attempt to standardize fees, this may be the most effective mechanism to obviate a national fee schedule and preserve fee-for-service medicine.

The Clinton Administration plans include fee-for-service medicine. As Ira Magaziner, the Clinton's Health Policy Advisor, stated in *AM News*, "…every alliance will be required to offer a fee-for-service network." The SCMA Physicians Care Network (PCN) is well positioned to offer such a network — read more about the PCN in the special newsletter included in this issue of *The Journal.*

E W Catalano MD

Edward W. Catalano, M. D.
President

The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

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Contents

Special Issue: Physical Fitness in South Carolina
Guest Editors: Joan Altekruse, M. D.
Senator Warren K. Giese

365 **Physical Activity and Associated Risk Factors in South Carolina**
Fran C. Wheeler, Ph. D., Ben Muneta, M. D., Jeffrey Jones, M. D., M. P. H.

371 **Physical Activity Behavior in South Carolina Youth**
Russell R. Pate, Ph. D., Marsha Dowda, M. S. P. H.

377 **Youth Health – The Key to Lifelong Fitness and the Challenge to Health Care in the Next Century**
Frederick E. Reed, Jr., M. D., Dianne S. Ward, Ed. D.

385 **Physical Fitness for Adults – A Commentary**
Thaddeus J. Bell, M. D.

387 **The Need for Physical Activity in Older Adults**
Frank M. Powell, Ph. D., G. Paul Eleazer, M. D.

Special Article

393 **Report of the SCMA Delegation to the AMA Annual Meeting**
Walter J. Roberts, Jr., M. D.

Editorials

397 **Exercise as a Clinical Tool**
Joan M. Altekruse, M. D., Dr. P. H.

399 **Physical Activity in South Carolina**
Senator Warren K. Giese

Features

407 **Alliance Page**
400 **On the Cover**
363 **President's Page**

Association

404 **For Your Benefit**
401 **Gray Matter**
403 **PCN Newsletter**
381 **SCMA Newsletter**

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The Journal
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89 AUGUST 1993 NUMBER 8

PHYSICAL ACTIVITY AND ASSOCIATED RISK FACTORS IN SOUTH CAROLINA
1988-1990*

FRAN C. WHEELER, PH. D.
BEN MUNETA, M. D.
JEFFREY JONES, M. D., M. P. H.
MARCIA J. LANE, M. S. P. H.

INTRODUCTION

The South Carolina Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing telephone survey, coordinated by the Center for Health Promotion in the South Carolina Department of Health and Environmental Control, to collect prevalence data for a number of health-related behaviors, since 1984. The BRFSS has estimated that the prevalence of sedentary lifestyle, defined as performing fewer than three 20-minute sessions of leisure-time physical activity per week for adults >18 years, has risen in South Carolina from 54.9% in 1984 to 65.4% in 1988.[1,2]

Previously, there has been little analysis of the association of sedentary lifestyle, adjusting for race and socioeconomic status, with related risk factors. Because the BRFSS has collected such data in South Carolina since 1984, it was possible to establish an age-related estimate of the prevalence of sedentary lifestyle among select groups in South Carolina.

The association of sedentary lifestyle with obesity, smoking, and hypertension in South Carolina was examined by demographic factors including race, sex, age, income, employment status, and education attainment.

The results of this and future BRFSS surveys will be useful in planning and developing interventions to increase physical activity to appropriate levels. This in turn will aid in reducing the incidence of health problems related to sedentary lifestyle.

METHODS

Data from the 1988-90 BRFSS surveys, which used a random-digit dialing telephone methodology and standardized questionnaires, were used to estimate the prevalence of self-reported sedentary lifestyle. Three risk factors, obesity, hypertension, and smoking were compared by race, sex, age, income, educational attainment, and employment status. The BRFSS sample survey results were weighted for race, sex, and age to reflect the population distribution estimates for 1988-1990.

---

*From the Center for Health Promotion, South Carolina Department of Health and Environmental Control, 2600 Bull Street, Columbia, SC 29201.

The SESUDAN software package was used for computing standard errors in the BRFSS sample survey data in order to establish 95 percent confidence intervals for the prevalence estimates.[3] The RTILOGIT software package for fitting logistic regression models to weighted survey data was used to calculate odds radios of sedentary lifestyle that was adjusted for the various risk factors and demographic variables.[4]

The BRFSS defined obesity as having a body mass index of > 27.8 for males and > 27.3 for females. This represents the sex-specific 85th percentiles of body mass index for U.S. adults aged 20-79 years.[5] Hypertension risk was defined as being told of ever having high blood pressure.[6] Smoking risk was defined as being a current smoker at the time of the interview.[7] Sedentary lifestyle was defined as performing fewer than three 20-minute sessions of leisure-time physical activity per week.[8]

Educational attainment was defined by three levels: some high school, high school graduate, and college. Employment status was classified into three categories: employed, unemployed, and retired. Income level was classified into four levels: < \$15,000, \$25,000-\$25,000, \$25,000-\$50,000, and > \$50,000.

RESULTS

During the three-year study, 5,932 adult South Carolinians (41% men) participated in the BRFSS. This included 4,504 whites (44% men) and 1,374 blacks (39% men). Other groups included 10 Native Americans and 22 Asians. These latter groups were excluded from further analysis due to the limited sample size.

Prevalence of Sedentary Lifestyle, by Race and Sex

As shown in Table 1, the overall prevalence of self-reported sedentary lifestyle for blacks was 76.3% (95% confidence interval [CI] 74.9-77.7%). This prevalence was 1.2 times the overall prevalence among whites (64.9%; 95% CI 63.3-66.5%). There were no differences in the overall prevalence of sedentary lifestyle between men (67.7%; CI 65.2-69.5) and women (67.9%; CI 66.1-69.7).

Table 2 shows that, for each age-specific group, the prevalence of sedentary lifestyle was consistently higher among blacks than among whites. These differences by race, unadjusted for income or education, were significant ($p < 0.05$). Except for two age groups, there were no significant differences between sexes when compared by age. In the 35-54 age group, men (71.3%; CI 68.0-74.6) were more sedentary than women (66.4%; CI 63.4-69.5). However, in the > 75 age group, women (86.4%; CI 82.3-90.5) were more sedentary than men (75.4%; CI 65.5-85.3).

Comparing black and white women by age, two groups were significantly different. Black women aged 35-54 were more sedentary than white women of similar ages. Also, black women aged 55-74 were more seden-

TABLE 1.
PREVALENCE OF SEDENTARY LIFESTYLE BY SEX AND RACE
SOUTH CAROLINA, 1988-1990

Percent of Population

RACE	MEN	WOMEN	TOTAL
WHITE	67.4 (±2.2)	67.9 (±2.0)	64.9 (±1.6)
BLACK	79.4 (±7.1)	70.7 (±5.9)	76.3 (±2.7)
TOTAL	67.6 (±2.2)	67.9 (±1.8)	67.8 (±2.0)

TABLE 2
AGE-ADJUSTED PREVALENCE OF SEDENTARY LIFESTYLE AMONG BLACKS AND WHITES, BY AGE
SOUTH CAROLINA, 1988-1990

	Percent of Population	
YEARS OF AGE	BLACKS	WHITES
18-34	70.6 (±4.7)	62.5 (±2.7)
35-54	78.1 (±4.7)	65.6 (±2.5)
55-74	80.6 (±3.9)	64.0 (±3.1)
75+	86.7 (±8.8)	81.8 (±5.1)

tary than their white counterparts. The only significant difference between men of both race groups was for black men aged 55-74, who were more sedentary than white men in the same age group.

Prevalence of Obesity by Race

As shown in Table 3, sedentary blacks (77.4%) are 3.7 times more likely to be obese than non-sedentary blacks (20.7%). Sedentary whites (71.0%) are 2.6 times more likely to be obese than non-sedentary whites (27.2%).

Table 4 shows that sedentary black men (79.0%) and women (76.3%) were 1.1 times more likely to be obese than were their sedentary white counterparts. Both of these findings were significant (p <0.05). Conversely, non-sedentary white men (24.9%), were 1.4 times more likely to be obese than their black counterparts (17.6%). Also active white women (29.8%) were 1.3 times more likely to be obese in comparison to active black women (22.6%).

Hypertension Prevalence, by Race

Also shown in Table 3, sedentary blacks (79.4%) were 4.5 times more likely to be hypertensive than non-sedentary blacks (17.7%) (p <0.05). Similarly, sedentary whites (66.7%) were 2.1 times more likely to be hypertensive than non-sedentary whites (29.1%).

As shown in Table 4, sedentary black men (82.0%) were 1.2 times more likely to be hypertensive than sedentary white men (66.8%) and sedentary black women (76.9%) were 1.1 times more likely than sedentary white women (68.8%). All groups that were sedentary were significantly (p <0.05) more likely to be hypertensive than their active counterparts. Sedentary white males (66.8%) were 2.1 times more likely to be hypertensive than non-sedentary white males (31.6%). Similarly, sedentary white women (68.8%) were 2.4 times more likely to be hypertensive than non-sedentary white women (28.2%). These differences were significant (p <0.05). However, differences between white men and white women were not significant.

TABLE 3
AGE-ADJUSTED PREVALENCE OF SEDENTARY LIFESTYLE-ASSOCIATED RISK FACTORS AMONG BLACKS AND WHITES
BY SEDENTARY LIFESTYLE STATUS
SOUTH CAROLINA, 1988-1990

	SEDENTARY SUBJECTS (%)		**NONSEDENTARY SUBJECTS (%)**	
	BLACKS	WHITES	BLACKS	WHITES
OBESITY	77.4 (±4.7)	71.0 (±2.0)	20.7 (±4.7)	27.2 (±3.1)
HYPERTENSION	79.4 (±5.5)	66.7 (±4.5)	17.7 (±5.3)	31.9 (±4.5)
SMOKING	74.1 (±6.7)	62.3 (±1.8)	24.2 (±6.7)	26.2 (±2.9)

TABLE 4
AGE-ADJUSTED PREVALENCE OF SEDENTARY LIFESTYLE-ASSOCIATED RISK FACTORS AMONG BLACKS AND WHITES BY SEX AND SEDENTARY LIFESTYLE STATUS SOUTH CAROLINA, 1988-1990

	Sedentary Subjects (%)		Nonsedentary Subjects (%)	
	MEN	WOMEN	MEN	WOMEN
OBESITY				
BLACK	79.0 (±4.1)	76.3 (±2.9)	17.6 (±3.7)	22.6 (±2.8)
WHITE	73.0 (±2.3)	68.9 (±2.4)	24.9 (±2.2)	29.8 (±2.4)
HYPERTENSION				
BLACK	82.0 (±3.7)	76.9 (±2.7)	16.6 (±3.5)	18.3 (±2.5)
WHITE	66.8 (±2.5)	68.8 (±2.2)	31.6 (±2.5)	28.2 (±2.1)
SMOKING				
BLACK	77.2 (±4.9)	69.7 (±4.6)	21.0 (±4.8)	28.6 (±4.5)
WHITE	71.9 (±2.0)	72.2 (±2.2)	25.6 (±1.9)	27.0 (±2.2)

Although sedentary black men (82.0%) were 4.9 times more likely to be hypertensive than their active black counterparts (16.6%) and sedentary black women (76.9%) were 4.2 times more likely to be hypertensive than their active counterparts (18.3%), the differences between black men and black women were not significant.

Also of significance was the finding that non-sedentary black men (16.6%) had a lower prevalence of hypertension when compared with non-sedentary white men (31.6%).

Smoking Prevalence, by Race

Table 3 shows that sedentary blacks (74.1%) were 3.1 times more likely to be smokers than non-sedentary blacks (24.2%). Similarly, sedentary whites (72.0%) were 2.7 times more likely to be smokers than physically active whites (26.2%). While whites were more likely to smoke than black regardless of physical activity status – these differences were slight and not significant.

There were no significant overall differences between men and women by physical activity level.

Sedentary Lifestyle Prevalence, by Income, Education, and Employment Status

As shown in Table 5, blacks were more likely to be sedentary than whites in all income groups. The only comparison that achieved significant difference was between non-sedentary blacks (23.8%) and non-sedentary whites (37.0%) in the $15,000-$25,000 income group.

Blacks were more likely to be sedentary than whites in all education groups, but this was significant only for the college-level group. For both races, activity levels increased with education.

Employed respondents were less sedentary (66.3%) than retired respondents (71.2%). Unemployed respondents were the most sedentary group (76.2%). The comparison between employed and unemployed groups was significant.

Employed blacks were more sedentary (72.8%) than employed whites (64.0%) Retired blacks (84.4%) were also more

TABLE 5
AGE-ADJUSTED PREVALENCE OF SEDENTARY LIFESTYLE-ASSOCIATED RISK FACTORS AMONG BLACKS AND WHITES BY INCOME, EDUCATION AND EMPLOYMENT LIFESTYLE STATUS SOUTH CAROLINA 1988-1990

	PERCENT OF POPULATION			
	SEDENTARY		NONSEDENTARY	
	BLACKS	WHITES	BLACKS	WHITES
INCOME				
< $15 K	81.4	73.1	17.8	24.8
	(±6.5)	(±3.3)	(±6.3)	(±3.1)
$15-25K	72.1	67.1	23.8	37.0
	(±9.0)	(±3.3)	(±7.8)	(±3.3)
$25-50K	74.9	61.4	24.0	36.2
	(±10.0)	(±2.9)	(±10.0)	(±2.7)
>$50K	69.0	57.8	39.1	41.9
	(±32.7)	(±4.5)	(±32.5)	(±4.5)
EDUCATION				
No High School	79.1	78.1	17.9	18.7
	(±4.7)	(±3.1)	(±4.5)	(±2.9)
High School	78.3	69.2	20.1	29.4
	(±4.3)	(±2.5)	(±4.3)	(±2.5)
College	66.2	56.2	32.9	42.3
	(±5.7)	(±2.3)	(±5.7)	(±2.4)
EMPLOYMENT				
Employed	72.8	64.0	25.4	34.3
	(±3.5)	(±2.0)	(±3.3)	(±1.9)
Unemployed	79.0	75.1	20.2	23.5
	(±9.2)	(±7.3))	(±9.2)	(±7.3)
Retired	84.4	66.8	12.1	31.4
	(±4.3)	(±3.5)	(±3.9)	(±3.5)

sedentary than retired whites (66.8%). However, there was no significant difference between unemployed blacks (79.0%) and unemployed whites (75.1%).

CONCLUSIONS

These results confirm that sedentary lifestyle is highly associated with potentially serious health behaviors among blacks in South Carolina. The initial age-adjusted national estimate derived from the 1988-1990 BRFSS data has yielded a prevalence of sedentary lifestyle similar to other estimates that for the differences among blacks and whites.[9] However, in the adjusted logistic regression model, when adjusted for income level and educational attainment, the difference between blacks and whites disappears. The disparity between races is more related to educational attainment and income level.

The BRFSS may prove to be a fast and efficient method for observing trends in chronic disease among portions of high risk groups who previously have proven difficult to survey. These results are of special importance to public health programs that monitor planned community interventions to reduce cardiovascular disease risk factors such as smoking and hypertension.

The type of data collected by the BRFSS presents some limitations in generalizing these findings to all South Carolinians. First, the use of a telephone survey to estimate prevalences may under-represent portions of a population, because a limited number of blacks, low-income people, or the unemployed, may own telephones. Also, some rural areas may have less telephone coverage. Little is known about the groups potentially excluded, and this bias may obscure some important differences.[10,11]

Further, the possibility of a higher refusal rate for blacks – because of their reluctance to answer questions posed by outsiders or questions that are culturally sensitive – may also affect the validity of the BRFSS data from which these sample estimates are derived.[12]

BRFSS estimates for sedentary lifestyle prevalence may be low because they are based on self-reports that may be biased towards an ideal body image. In addition, the BRFSS questions about sedentary lifestyle may be more indicative of leisure physical activity than total physical activity.

Despite the limitation of the BRFSS, these data are useful for targeting interventions in this high-risk population. Culturally appropriate and relevant programs to encourage moderate but regular physical activity and caloric restriction in weight-loss programs need to be conducted or expanded. Such programs, combined with the increasing participation of the high risk groups in annual surveys, will augment future surveillance efforts for South Carolina health policy planning and health care delivery. ❐

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PHYSICAL ACTIVITY BEHAVIOR IN SOUTH CAROLINA YOUTH*

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INTRODUCTION

Physical activity is a well recognized component of a healthy lifestyle, and extensive scientific evidence documents that sedentary living is a risk factor for an array of chronic diseases including coronary heart disease, hypertension, type II diabetes, certain cancers and some mental health problems.[1] Despite this evidence and the wide public acceptance of the health benefits of physical activity, physical inactivity remains a highly prevalent condition. Among adults it is estimated that only 20 to 25 percent of persons are physically active at the level recommended for provision of health benefits.[2]

Though the diseases that are associated with physical inactivity tend to manifest in middle to later adulthood, the physical activity habits of children and youth have long been a concern of educators and physicians. In recent years public health authorities have also developed an interest in youth physical activity. *Healthy People 2000,*[3] an extensive set of national health promotion and disease prevention objectives, includes several objectives that directly address physical activity in children and youth. To assess our progress toward attainment of the objectives enumerated in *Healthy People 2000*, several large-scale surveys have been undertaken. One of these, the Youth Risk Behavior Survey (YRBS), was developed by the Division of Adolescent and School Health of the U.S. Centers for Disease Control and Prevention (CDC). YRBS was launched on a national basis in 1990, and in that year it was administered to large numbers of high school students in South Carolina and across the country.[4]

This paper is intended to present a description of the physical activity habits of adolescent youth in South Carolina. This will be accomplished by summarizing the responses of a large sample of high school students in South Carolina to the physical activity questions included in the 1990 YRBS questionnaire. Comparisons will be drawn between the responses of males and females. In addition, the responses of South Carolina youth will be compared with those of the students that comprised the national sample in 1990.

METHODS

In South Carolina the sample of students who completed the YRBS questionnaire in 1990 was selected using a two-stage sampling protocol.[5] All South Carolina schools that included ninth grade or above were eligible for selection, with the exception of special education schools. The initial sampling frame included 219 schools stratified into three levels on the basis of enrollment: large (1285 to 2577), medium (887 to 1278), and small (74 to 874). Within each level schools were selected on a systematic basis with probabilities proportional to enrollment size. A total of 100 schools in 58 school districts were selected for participation. Fifty-seven schools agreed to participate. The distribution of schools across the three strata included 17 larger schools, 22 medium-sized schools and 18 small schools. The final sample consisted of 5,458 students, and the demographic characteristics of this group are summarized in Table 1.

The national sample was constructed using a three-stage sampling protocol designed to yield a representative sample of nine to 12th grade school students in the 50 states, the Dis-

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TABLE 1.
DEMOGRAPHIC CHARACTERISTICS OF THE SOUTH CAROLINA AND NATIONAL SAMPLES PARTICIPATING IN YRBS IN 1990.

AGE	GENDER		ETHNIC BEACKGROUND			
	Male	Female	White	African-American	Hispanic	Other
SOUTH CAROLINA						
14	342	348	333	326	4	27
15	667	758	775	596	10	41
16	710	716	838	531	17	39
17	586	598	679	462	9	33
18	378	355	433	269	9	22
NATIONAL						
14	602	718	653	295	2284	84
15	1307	1410	1459	518	567	169
16	1351	1470	1565	570	517	164
17	1380	1384	1549	534	503	168
18	943	832	1015	292	346	117

trict of Columbia, Puerto Rico and the Virgin Islands. The three stages were: (1) larger counties or groups of smaller adjacent counties that comprised primary sampling units, (2) schools, and (3) classes. Schools with large enrollments of African-American and Latino students were oversampled to increase the representativeness of the sample for these two groups. The school response rate was 73.8% and the student response rate was 86.8%. The final sample consisted of 11,631 students, and the demographic characteristics of this group are summarized in Table 1.

RESULTS

The data presented in Figures 1 and 2 summarize the responses of South Carolina youth and the national sample to the two primary physical activity behavior questions included in YRBS. Only approximately 40 percent of boys and 19 percent of girls in SC reported engaging in six or more vigorous exercise sessions during the previous 14 days. For light exercise comparable percentages of boys and girls reported participation on six or more of the preceding 14 days. For both types of exercise participation rates were lower in SC than in the national sample. It is particularly noteworthy that sizeable percentages of both boys and girls reported no participation in vigorous or light exercise over the preceding two weeks. The percentages of youth reporting no recent exercise were greater in SC than in the national sample.

As shown in Figure 3, few high school youth report frequent participation in exercise outside the school setting, and similar

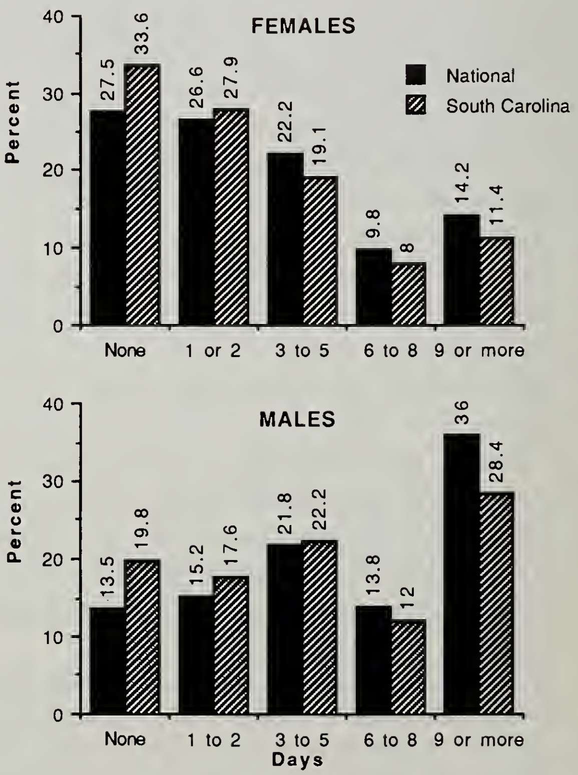

Figure 1. Number of days out of the past 14 on which "hard exercise" was performed.

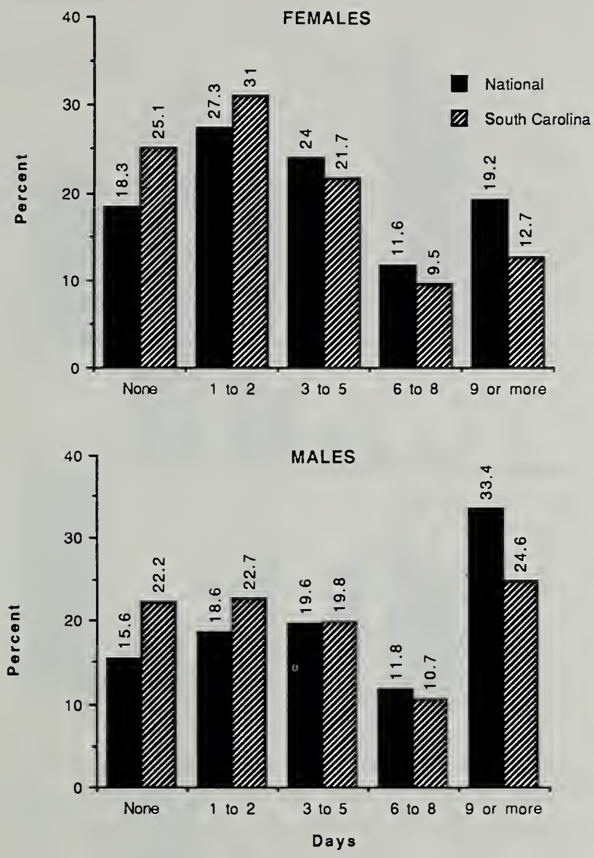

Figure 2. Number of days out of the past 14 on which "light exercise" was performed.

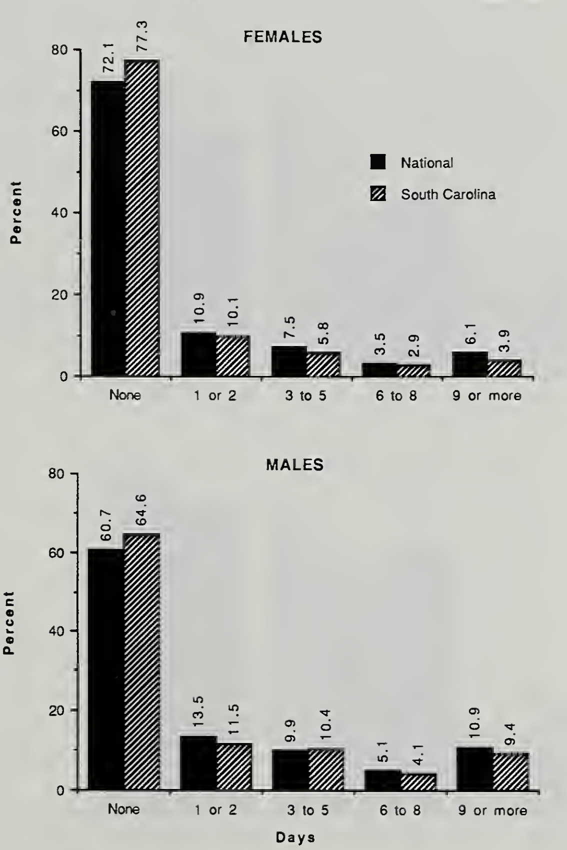

Figure 3. Number of days out of the past 14 on which exercise was performed outside of school.

response patterns were seen in both the SC and national samples. Likewise, it was observed in both the SC and national samples that only a minority of high school students were currently enrolled in school physical education (see Figure 4). Enrollment rates in physical education were lower in the SC sample than the national sample, particularly among girls. The data presented in Figure 5 demonstrate that those students who are enrolled in physical education are likely to attend class almost every day. This tendency was more marked in SC than in the national sample. However, as shown in Figure 6 many youth report rather infrequent participation in light or vigorous exercise in physical education. This trend is most obvious for girls; in the SC sample 37 percent of the girls enrolled in physical education reported not participating in light or hard exercise in physical education during the preceding 14 days.

School sports are a potential source of physical activity, however the results of YRBS indicate that most high school students do not participate in sports teams (Figure 7). In SC over half of boys and nearly three-quarters of girls did not participate in school sports during the previous year. In both the SC and national samples it was observed that only a small minority of youth participated in two or more sports teams during the preceding year.

Television watching is thought to be a factor that reduces participation in physical activity among both youth and adults. The results of YRBS indicate that the typical adolescent spends at least one hour per day watching TV and a great many watch three or more hours per day (see Figure 8). In SC over 40 percent of both boys and girls reported watching television for three or more hours per day on school days, and a similar pattern was seen in the national sample.

As demonstrated in Figure 9, girls are more likely than boys to report having recently exercised for the purpose of losing or maintaining body weight. Similar response patterns were seen

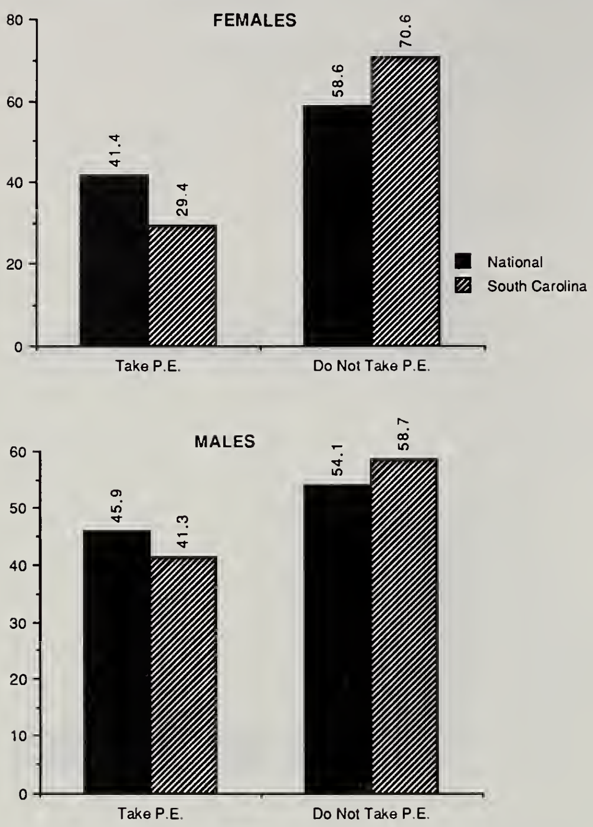

Figure 4. Percentages of students enrolled in physical education.

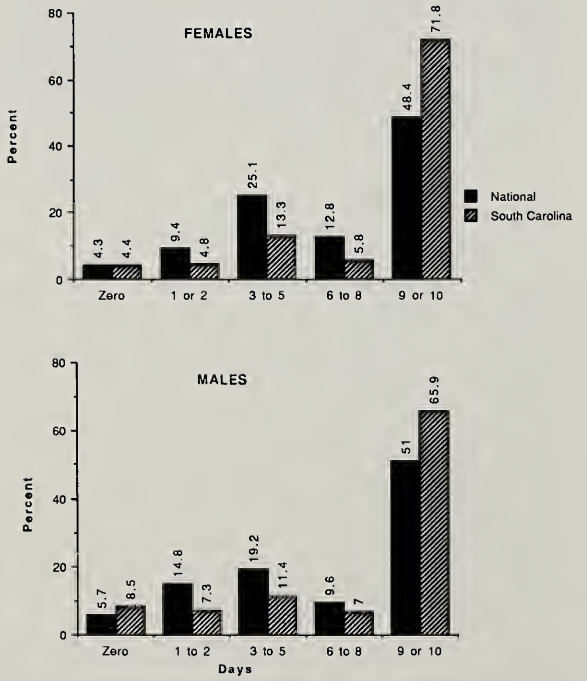

Figure 5. Frequency of attendance (in previous 14 days) in physical education among those enrolled in physical education.

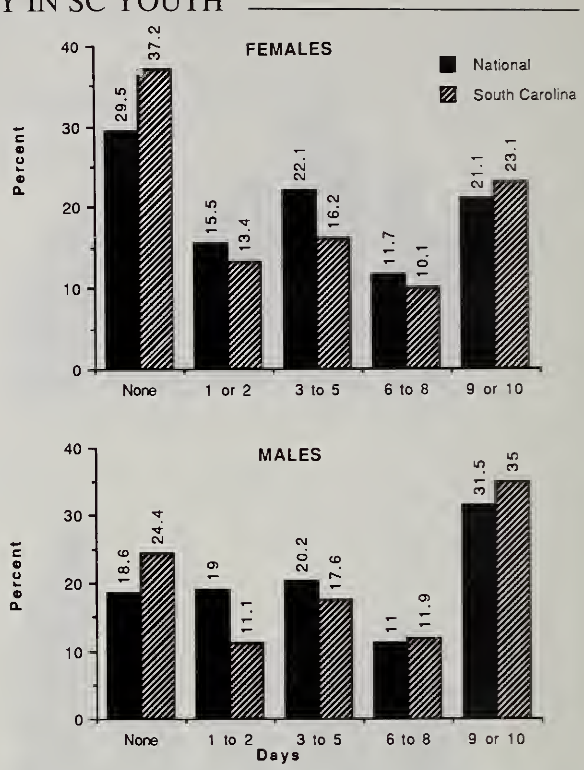

Figure 6. Frequency of performance (in previous 14 days) of light or hard exercise in physical education among those enrolled in physical education.

in the SC and national samples.

DISCUSSION

The results of YRBS indicate clearly that physical inactivity is a prevalent condition among youth in South Carolina. The physical activity objectives included in *Healthy People 2000* call for participation in vigorous exercise sessions three or more days per week and for participation in light to moderate exercise on a daily basis.[3] Based on the results of YRBS it appears that most youth in SC do not meet these objectives. This indicates that a great many adolescents in SC already manifest the sedentary lifestyle that is highly prevalent among adult Americans and which is associated with markedly increased risk of chronic disease. Though low levels of physical activity are prevalent in youth on a national basis, the results of YRBS indicate that this problem is more prevalent in SC than in the national sample of YRBS respondents.

Physical activity is a complex behavior, the determinants of which are not well understood.[6] However, the results of YRBS do pro-

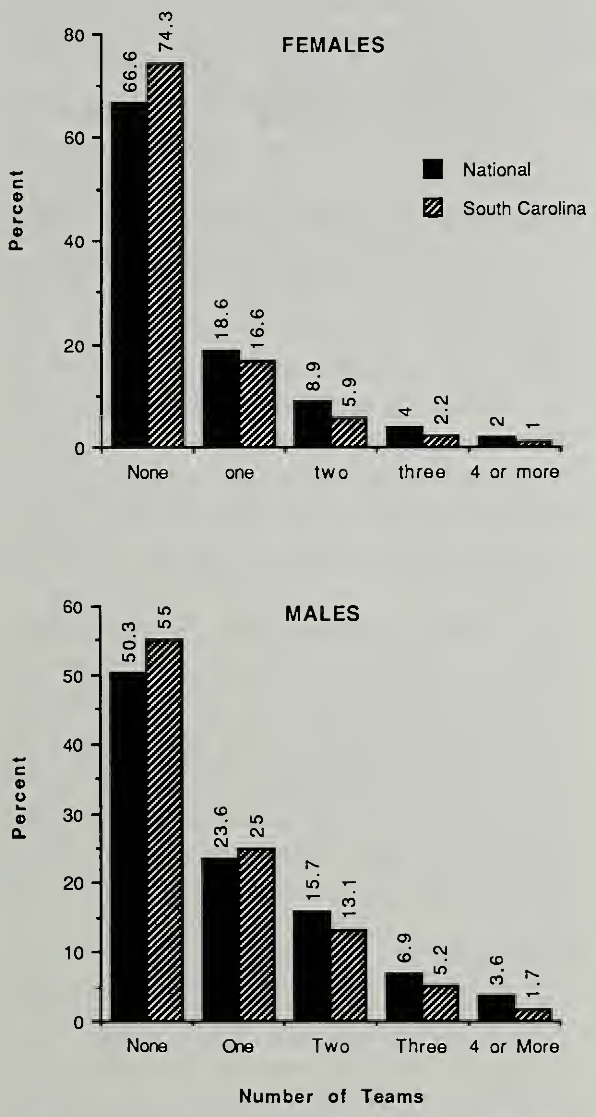

Figure 7. Percentages of students participating in school sports teams (last 12 months).

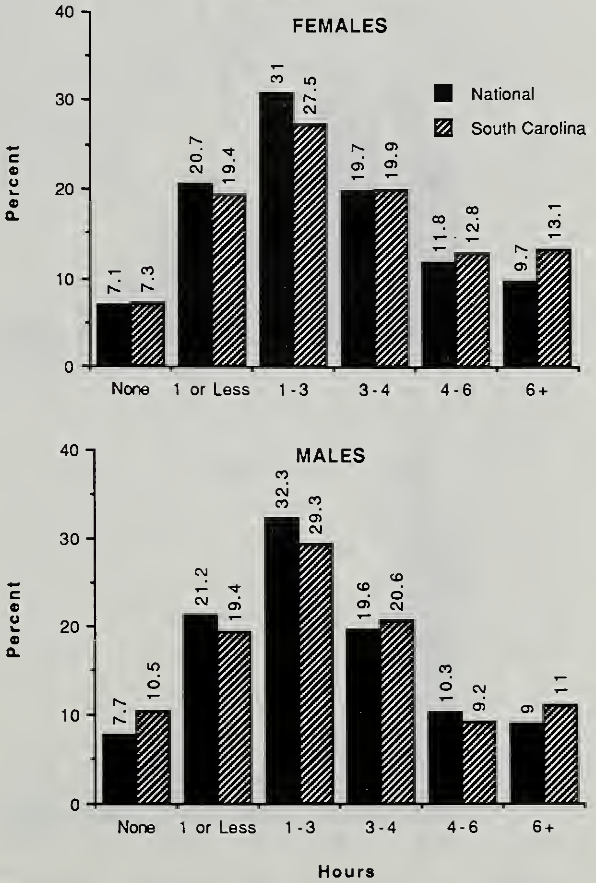

Figure 8. Hours per day spent watching television and playing video games.

vide some indication of the causes of this problem in adolescents. It was observed in both the SC and national surveys that large percentages of youth report little recent participation in exercise outside the school setting. While it would be desirable for this situation to change by expanding community-based physical activity opportunities for youth, modification of school-based programs appears to provide the greatest opportunity for increasing the participation of youth in vigorous exercise. A prime target should be school physical education programs. The results of YRBS reveal several concerns related to physical education. The most obvious is that the majority of high school students are not enrolled in physical education. In South Carolina only one credit of physical education is required for graduation from high school and most students complete this requirement in the ninth grade. Few students elect to take additional physical education courses in later years. Among those who are enrolled in physical education the majority report rather infrequent participation in moderate or vigorous exercise in their physical education classes. These observations indicate that, both nationally and in South Carolina, there is a need for improvement of both the quantity and quality of physical education.

Interscholastic athletic programs have a long tradition in American high schools, and in recent decades these programs have been expanded to offer more sports teams and to better serve girls. YRBS indicates that, despite these changes, school athletic programs serve only a minority of youth. In SC only 25 percent of girls and 45 percent of boys reported

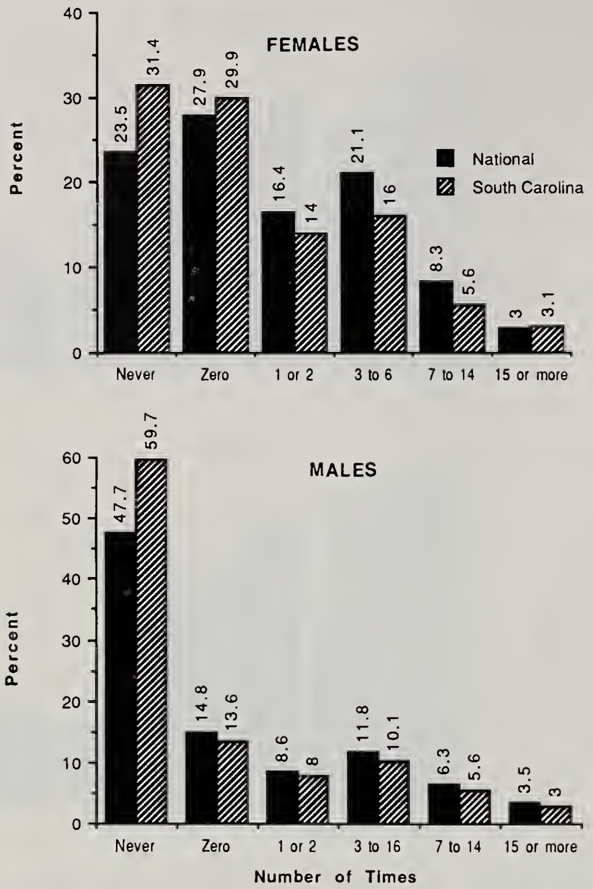

Figure 9. Frequency of participation (in previous seven days) in exercise to lose or maintain weight.

participating in at least one sports team during the preceding year. This suggests that competitive sports programs, in their current form, serve primarily those youngsters who are the most talented and the most attracted to highly competitive sports. If school-based sports programs are to optimize their potential for promoting physical activity among youth, changes will be required that make these programs available and attractive to much larger percentages of youth.

YRBS indicates that many youth spend a sizeable fraction of their discretionary time watching television. Because TV watching is typically a sedentary activity that substitutes for more physically active pursuits, TV watching should be limited and should not be allowed to draw youth away from physically active recreation.[7] Parents should be encouraged to limit the time that their children spend watching TV; and, schools and community-based youth programmers should offer after-school physical activity programs that attract large numbers youngsters, particularly those that are not currently being served by interscholastic athletic programs.

In summary, the Youth Risk Behavior Survey provides important information on the physical activity habits of adolescents in South Carolina and the United States. Results of the 1990 surveys indicate that a sizeable percentage of boys and an even larger percentage of girls report little participation in vigorous exercise. Rates of participation in vigorous physical activity were lower in SC than in the national sample. Likewise, fewer youth in SC enroll in physical education than is the case nationally; and, of those enrolled in physical education, a large percentage report little participation in vigorous activity in that setting. School sports programs serve a minority of youth. Given the importance of physical activity in disease prevention and health promotion, the results of YRBS indicate that schools, community organizations, physicians and parents in South Carolina and the nation should give greater attention to promotion of physical activity in adolescent youth. ❐

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YOUTH HEALTH – THE KEY TO LIFELONG FITNESS AND THE CHALLENGE TO HEALTH CARE IN THE NEXT CENTURY

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Public awareness of each individual's responsibility to maintain a healthy lifestyle will be the key to health care in the next century. The information is available, the technology is here and the health care crunch is being felt by every individual, all businesses and our national economy.

To unite the South Carolina community, numerous organizations shared in a 1993 Public Awareness Campaign for Physical Activity during the month of May, 1993. It was a goal shared with the South Carolina *Healthy People 2000*, the Governor's Council on Physical Fitness, DHEC Center for Health Promotion and the South Carolina Medical Association. Did public education, community participation and media focus make a difference? Yes, but attitudes are hard to change and whether adults will continue to pursue the rewards of a month of activity remains to be seen. The health process needs to start in childhood but depends upon adults to mold it. This article identifies the role of youth fitness in the greater challenge of physical activity for all ages. The importance of youth fitness was targeted in the first week of May – Physical Activity Awareness Campaign.

Youth and adults are linked in many ways. We cannot separate the role of Physical Education in schools from adults who design curriculum and pass laws assuring kindergarten through twelfth mandatory physical education. Every child in an extracurricular sport activity is dependent on adult direction and example. The experiences youth have at play in conditioning and in aerobic exercise influence their attitudes as adults and senior citizens. Most important, cardiac risk factors, attitudes about smoking, drinking and drug use and obesity begin in youth and carry over to adulthood. We shall examine these four areas. Unfortunately, many adults trace their negative feelings regarding physical activity to days when they were forced to endure inappropriate physical education.

PHYSICAL EDUCATION IN SCHOOLS

Youth fitness in the United States has not improved in the last 10 years and in some cases has declined. Approximately 50 percent of girls age six to 17 and 30 percent of boys age six to 12 cannot run a mile in less than 10 minutes. American children have become fatter since the 1960s. (U.S. Public Health Service). Fifty-five percent of girls age six to 17 and 25 percent of boys age six to 12 cannot do one pull-up. Forty percent of children age five to eight show at least one heart disease risk factor (i.e., physical inactivity, obesity, elevated cholesterol, high blood pressure). In spite of increased awareness that healthy lifestyles begin in youth, the South Carolina Youth Risk Behavior Survey of 1991 showed that 69 percent of females and 59 percent of males do not take Physical Education class. The same study shows 52 percent of males reported not playing on a school-based sports team compared with 74 percent of females. A collaboration of home, school and community should approach this problem from two directions. The top-down approach would include not only legislation and policy, but recognition of physical education programs in South Carolina schools. The current Defined Minimum Program standards reflect the need for certified health specialists in secondary schools and physical education specialists at all grade levels. In many cases, elementary schools are not currently providing the Defined Minimal Program required instructional time in health or in physical education. Classroom teachers sometime provide recess, not Physical Education and Health time is seen as less critical than the three Rs and is not given priority. There is no current curriculum framework for Health Education. The last one was published in 1976. K-8 certified elementary teachers who are currently responsible for all of the Health and some of the required Physical Education programs indicate that they are not sufficiently prepared or trained to provide an adequate Physical Education or Health Education program.

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Top-down approach would provide Health and Physical Education coordinators in the 91 school districts in South Carolina (there are only five at present). Their priorities would be daily quality Physical Education for students grades K-12 with classes taught by Physical Education specialists with minimal class time of 30 minutes.

PHYSICAL FITNESS TESTING

Programs would have emphasis on lifetime physical fitness activities for development of strength, endurance and flexibility. This would be all-inclusive so that there would be remedial programming for low-fit youngsters, utilization of physical activity as a satisfying means of social interaction and communication expression and worthy use of leisure time as well as the usual self-confidence in movement skills. To measure the success of this, physical fitness testing would be performed at least once yearly. The President's Council on Physical Fitness recommends twice yearly testing, fall and spring. Those school children who take the Presidential Fitness Test must score on five tests including chin-ups, sit-ups, flexibility stretch, one mile run and the shuttle run. This series of exercises helps to measure strength, flexibility and endurance. In 1984, however, only two percent of the students who took the president's challenge received the award. Efforts are currently being made to revise this test to reflect more individual progress than emphasizing competition.

The top-down approach cannot be successful, however, without a bottom-up approach on a community level. Individuals working in communities can help establish Physical Fitness Demonstration Centers or Physical Education Model School Programs to motivate school officials, teachers and other interested persons in developing high quality programs that can obtain national recognition.[1,2] An advisory committee to assist school personnel and the public to obtain first hand information would consist of local physicians, particularly pediatricians, local Boards of Health, physical education instructors and coaches, athletic trainers and local members of the South Carolina Association for Health and Physical Education, Recreation and Dance. Students would become an active part of planning by earning the President's Physical Fitness Award or the National Physical Fitness Award.

POSITIVE EXERCISE EXPERIENCE

The Parent-Teacher Associations and schools boards should become active to see that hiring of teachers in all areas be based on quality teacher competency rather than coaching skills. Many coaches spend a disproportionate amount of time preparing for coaching in relation to time spent serving the needs of all students through physical education intramural programs. This is not to de-emphasize the importance of varsity athletic programs but the emphasis on winning teams in athletics provides an arena for the few and disregards the activity needs of 70 percent of the student population. Athletic team practice often determines the educational program and precludes the use of facility directly following the close of school. With better cooperation, programs could be established after school hours for intramural participation and other recreational outlets. The burden should not be fully on the school system, however, and cooperation with local YMCA groups, Fitness Centers and Recreation Departments can not only answer the need to extend student supervision or the school day itself for families with two working parents, but allow greater stimilus for physical activity.

EXTRA-CURRICULAR SPORT ACTIVITY

Physical eduction builds a foundation for adult recreation and leisure time extra-curricular sport activity. Adults have their best opportunity to demonstrate, by example, to pass on healthy lifestyles, group cooperation and other team values emotional and physical maturity as well as skills for lifetime fitness. In South Carolina, the Governor's Council on Physical Fitness in conjunction with the SC Association of Health, Physical Education, Recreation and Dance has formed PLAY (Physical Lifetime Activity for Youth) to help coordinate community physical activity programs and promotions in schools, churches, community areas, recreational facilities, parks and fitness centers. May was a particularly important time to emphasize physical activity. This month features, on an annual basis, a South Carolina Great America Workout, National Physical Education and Sports Week, National Employee Health and Fitness Day, Senior Walk, a Senior Sports Classic, and the South Carolina Special Olympics Summer State Games.

LIFETIME SPORT

Youth fitness represents to many the optimal function of all physiologic systems of the body particularly the cardiovascular, pulmonary and musculoskeletal systems.[2] The American College of Sports Medicine, the Committee on Sports Medicine of the American Academy of Pediatrics, the South Carolina Medical Association through its Committee on the Medical Aspect of Sports and many others have made policy statements supporting the role of so-called lifetime athletic activity such as cycling, swimming, running, aerobic exercise and tennis.[3,4,5] These position statements are based on research and experience gained in strength, flexibility, injury protection, self-image, muscle endurance, cardiovascular functioning and rehabilitation. Regular exercise programs increase muscle strength in children, increases muscle endurance and shortens rehabilitation time after injury.[6] Regular exercise increases flexibility in children and directly increases cardiovascular functioning in children.[7] Strength training programs typically lower sports injury rates.[8]

EXERCISE DECREASES RISK FACTORS

The problems of smoking, drinking and drug use, physical inactivity, elevated cholesterol and hypertension are known to have their impact early in life and determine adult habits and attitudes. An important related risk factor, however, does not seem to get sufficient attention: the problem of obesity. Obesity is the most common disease of childhood with prevalence rates ranging between 15 and 25 percent. Moreover, children are getting fatter. Data from Fortmaker and Dietz[8] who compare obesity prevalence rates taken from large-scale nutritional surveys indicate that obesity in children has increased by 54 percent, while a 39 percent increase in adolescent obesity has been observed. Whether genetics or environmental factors are causative, the single most important risk factor predisposing a child to obesity is parental obesity.[9] It is estimated that children have a 40 percent risk of developing obesity with one obese parent and 80 percent if both are obese.[10]

Children today, and Americans in general, do not have the same encouragements to be physically active as did people 25 years ago. The advent of accessible transportation and labor-saving devices has decreased the physical demands placed on an individual. A major deterrent to regular physical activity is television. It is estimated that the typical 10 years old watches 24 hours of TV per week. Add in school time, homework, eating and sleeping and the child has little left over for play.

Children, especially those who are less successful at games and play, may find reinforcement in passive play with computers or computer-type games instead of the expected gross motor play associated with childhood.

Physical fitness – especially endurance fitness, is negatively correlated with the level of obesity. Body fat represents an inert load that must be moved around by the rest of the body, thus reducing the individual's overall fitness level. In studies where aerobic function in children is measured, obese children consistently have lower levels of fitness (per kg of body weight) than do normal weight youth. This decrement in fitness is most likely the result of excess adiposity and can be improved by simply losing weight or improving the weight-to-height ratio.

The school site can be an important contributor to the health and well being of children. Obesity prevention and intervention can be successfully incorporated into the school program. In a review of research on the treatment of obesity in a school setting, Ward and Bar-Or[11] found that most of the studies reviewed were successful in alerting the obesity status of the participants. A recent study of a school-based intervention which used only exercise as the treatment found a significant decrease in the obesity index among the 41 participants and continued into the second year following the cessation of treatment.[12]

School physical education programs should be sites of obesity prevention by providing children with skills and attitudes needed to become "physically active". Repetitive sport teaching which emphasizes competition should be minimized and enhanced participation for all maximized. This demands that children, such as the obese, who can not easily participate with their age peer be provided *special* programs that would convince them to embrace an active lifestyle, not cause them to retreat to a life of inactivity.

Physical Lifetime Activity for Youth (PLAY COALITION) has been charged to bring all of these aspects together in the state of South Carolina. This was not just a project for the month of May but will be a continuing challenge to the year 2000. It is hoped that by the year 2000 that the proportion of people six years and older who engage regularly (preferably daily) in light to moderate physical activity for at least 30 minutes a day, will be increased 30 percent. There will be at least a 50 percent increase in the proportion of school Physical Education class time that students spend being physically active, preferably in lifetime physical activities. An important role for physicians to work toward is the goal of increasing by 50 percent the proportion of primary care providers who routinely assess and counsel their parents and children regarding the frequency, duration and intensity of patient's physical activity practices.[13] ❐

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PHYSICAL FITNESS FOR ADULTS – A COMMENTARY

THADDEUS J. BELL, M. D.*

It has been my impression that most physicians have a poor understanding of fundamental information needed for a physical fitness program. The reason for this is primarily twofold; first, most of us spend far too much time taking care of people who have experienced the consequences of poor long-term lifestyle habits and as a result, we feel more comfortable with taking care of the effects of these conditions, rather than the prevention of them. Secondly, until recently, the focus of our training has not been the benefits of fitness for living. Nowhere in my training as a medical student or resident has information on the benefits of fitness and proper nutrition for healthy living been taught.

GUIDELINE TO CONSIDER FOR YOUR OWN FITNESS PROGRAM AS WELL AS YOUR PATIENTS

My own interest in this area started as an attempt to get myself fit because it just seemed to make sense to me. As I began to embark on this venture, it became very obvious to me that most of my thoughts about getting fit were outmoded and would not work for a 40-year-old man. So my first recommendation to you is to get rid of the old concepts about training and getting fit and be open to new ideas and suggestions.

NO GAIN, NO PAIN – GONE FOREVER

It has been my experience that not much information has been written about training for fitness in the middle age or older adult.

The most common question that I encounter about fitness is how often should one exercise, and how long should an exercise session last. It is not necessary to exercise daily. Most experts, as well as publications, suggest exercising at least three days a week for 20 to 30 minutes per session. This is enough to get and maintain the cardiac protective benefits of a fitness program. It appears that the intervals between sessions does not really matter as long as the sessions are done. Therefore, a fitness session during the week and one each on Saturday and Sunday will work. This information is important because the patients as well as fellow physicians use time constraint as a major reason for not participating in a worthwhile program.

As far as time invested per session is concerned, three 10-minute sessions per day is just as effective as one 30-minute session. Research does reveal that longer sessions may provide more cardio protective benefits as well as enhancing the weight reduction benefits of a more extensive period of exercising. Before recommending an exercise prescription, make sure that the goal of the patient is well known and understood. It is imperative that a knowledge of what type of physical activity the patient enjoys is considered. Activities such as jogging, walking, swimming, biking, use of the stairmaster, and rowing machine are excellent exercises to consider for the previous sedentary adult. Team sports such as basketball, volleyball, touch football, and baseball are all fun sports to participate in, but are NOT recommended for the beginner because they require a level of fitness most patients do not already have.

GO SLOW ATTITUDE

In addition to the above, always recommend the "go slow attitude" approach to your patients and yourself. The most common cause of people dropping out of a fitness program is injury incurred on the initial phase of the program and muscle soreness experienced from doing too much too soon. This is particularly important in the older to middle age adult.

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I would also stress the importance of companionship when starting a program. People are more likely to stick with a program when both are committed to it.

I would suggest walking as a beginning exercise if it is practical in your opinion for the patient. Walking for 30 minutes three times a week is an easy way to improve ones cardiovascular system, weight, muscular endurance and tone, and also enhance the digestive system and serve as a stress buster. In my opinion, it is one of the best all around aerobic exercise for all ages as well as being the most convenient. Make sure you recommend that the patient invest in walking shoes that are large enough to allow the feet to expand. Foot problems are common for beginners so be on the look out for them.

As far as the intensity of the activity is concerned, there are many ways to determine this. The most reliable way is to subtract the person's age from 200. Then take 60 to 85 percent of the prediction maximum and use that rate as the rate to achieve during exercise activity. However, most patients are not motivated in the beginning to do this calculation. It has been recommended that exercising at a pace in which the patient finds it a bit difficult to talk is an adequate way of determining whether the effort or intensity is good enough in beginners. I think stressing that the patient relax and have fun while exercising is an important recommendation.

While weight lifting and flexibility have no direct role in cardiovascular fitness, both have a role in a total fitness program. For the average patient who is just interested in a well balanced fitness program, light weight lifting with free weights for Nautilus equipment when done correctly and at the right intervals are definitely beneficial. These type of activities strengthens muscles, tendons and joints and enables patients to pursue fitness programs at a greater level and duration than the average person.

Stretching is an activity in sport and fitness that is encouraged but should always be done correctly. The primary reason frequent stretching is needed is to prevent injuries. As we grow older our flexibility decreases thus decreasing the ability of the desired muscles to do more work. Much has been written on this subject which is beyond the scope of this paper, but the following points should be stressed. Cold muscles should never be stretched. Over stretching is just as bad as no stretching at all. The proper technique of stretching should be employed using the feel method when performing the stretch. The static technique of stretching, (holding the stretch for 10 to 20 seconds) should be used instead of ballistic stretching (performing a bouncing motion during the stretch).

EXERCISE PRESCRIPTION

Finally, a few comments about the exercise prescription. For some patients, an exercise prescription is the treatment of choice. Exercise is the medicine, but the negative effects of exercise do exist (i.e., exercise addiction, exercise injuries).

An exercise prescription must be individualized and include written instructions for the type, intensity, duration, and frequency of the exercise. The physician must consider the patient's goals, level of conditioning, needs, and past and present illness or injuries before a prescription is written.

PRE-FITNESS EVALUATION

The pre-fitness evaluations are the recommended guidelines that physicians should use to evaluate patients before recommending an exercise prescription. It is designed to aid in the diagnosis of disease in asymptomatic or symptomatic individuals. It is also designed to assess the cardiovascular, pulmonary, and muscular endurance capacity of the individual. It also accesses the safety of exercise training.

Details of the how, what, and why are beyond the scope of this paper, but are well documented in Sports Medicine textbooks. ❐

THE NEED FOR PHYSICAL ACTIVITY IN OLDER ADULTS*

FRANK M. POWELL, PH. D.**
G. PAUL ELEAZER, M. D.

In an ideal world we live an active, fulfilled, and independent life, then we die. In the real world of the United States far more frequently we live beyond our capacity to be active, fulfilled, and most of all, independent. Legs often die before heads. Our last breath leaves a decidedly frail body. Quality of life is often lowest in the months and years before death.

Medical advances will continue to increase mean life expectancy though often without contributing to the quality of life in those extra months or years. Improvements in mean quality of life should be as important a goal as the mere extension of life. Those 65 years of age and over currently make up 12.6 percent of the American population and already use over 30 percent of all health care expenditures.[1] This group is growing at twice the rate of the population as a whole. A month to a year more of independent living before death can bring great economic and humanitarian benefit. The sedentary lifestyle is a significant contributor to the poor quality of life in the elderly. The baby boom generation must find improved ways of caring for parents and keeping them on their feet.

Systematic physical activity has frequently been ignored as an effective way to improve quality of life in an aging population.

This paper will discuss the relationship between physical fitness and function, then highlight not only the benefits of systematic exercise on elderly human function, but also address the need to assert, use, and integrate comprehensive intervention strategies that will insure high levels of patient acceptance.

Cross-sectional studies show that sedentary Americans lose approximately 30 percent of their strength and 40 percent of their muscle mass from ages 20 to 70.[2] Maximum oxygen use capacity ($V0_2$) declines about 50 percent during this time or about 10 percent each decade.[3] All too frequently the loss of lean muscle mass is accompanied by a corresponding increase in fatty tissue. When total body weight remains reasonably constant and muscle mass and strength decline, walking, rising from a chair, and stair climbing become arduous.[4] Strength of a muscle group divided by body weight is called relative strength. It is a useful concept to keep in mind when trying to understand and empathize with the difficulties older individuals face. Loss of strength and increases in percent of body fat occur particularly from disuse atrophy and have negative effects upon quality of life.

In the general population the relationship between physical fitness and basic human function is low. The physical demands made by the typical American lifestyle are so low that only minimal fitness is required to remain independent. Among nursing home residents there are significant correlations found between relative strength and ambulation, body care, and routine mobility.[5] $V0_2$ and surgical survivability are related.[6] Frequency of falls and physical fitness are inversely related.[7] An improved capacity to function and remain independent is measured by the maintenance of reasonable strength and aerobic capacity. It is widely observed that elderly individuals who choose to remain sedentary invariably lose their independence more quickly.

Exercise science has begun to provide substantial documentation for the benefits of systematic exercise upon elderly human function. Evidence continues to accumulate showing that some exercise is better than none[8,9] and that one does not get too old to begin exercising.[10] Physiological adaptations to both aerobic training and resistive weight training are predictable and comparable to the changes long seen in the middle-aged and young.[2] Evidence continues to appear to show that injury frequency and severity is minimal in elderly patients who systematically exercise.

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Fiatarone, et al., provided simple leg extension exercises to nonagenarians three days a week and found average gains of 174 percent in strength of the quadriceps muscles.[10] Walking speed improved 48 percent. Brown, et al., and Frontera, et al, produced significant gains in strength and function in their elderly subjects through circuit weight training.[11,12] Stamford in his extensive review of the exercise and aging literature concludes that the elderly show an increase in $V0_2$max to training comparable to that demonstrated by younger subjects.[13] Reduced pulmonary function seen in the elderly does not appear to limit $V0_2$max despite anecdotal evidence to the contrary. Moderate breathing difficulties should not preclude systematic aerobic stimulation through walking, bicycling, swimming or rowing.

In addition to interventions focusing on the elderly outpatient, there is ample evidence that aerobic activities and weight training in nursing home patients will significantly improve cardiovascular-respiratory function, muscle strength and endurance, and overall functioning in elderly patients. There are data suggesting that even memory may improve with increased physical activity in nursing home patients.[14] The evidence for intervention in the nursing home population will continue to accumulate over the ensuing years. It seems reasonable, prudent, and cost effective for nursing homes to incorporate strength training and moderate aerobic exercise into their rehabilitation, restorative, and recreational programs. Slowing or prevention of functional decline decreases staff/patient contact and may actually give patients an opportunity to return to independent living.

For most elderly patients, the physician is seen as the chief architect of planning for their health care. It is therefore important that physicians look at all aspects of the patient's life and particularly emphasize interventions which will improve quality of life and functioning in later life. Just as physicians should intervene in the disease of hypertension to prevent stroke and subsequent disability, so they should be equally responsible for intervening in sedentary lifestyles which may lead to an increased risk of decline in physical functioning and quality of life. The sedentary patient is more likely to develop coronary artery disease,[5] become depressed, develop osteoporosis[15] and to face increased risk ultimately requiring nursing home placement. The physician's responsibility in intervening and developing an exercise program may be key to preventing further debility and disease and preserving the elderly patient's quality of life.

It should be emphasized that similar to other prevention programs, e. g., smoking cessation, an intense intervention is more likely to be successful. As has been shown with smoking cessation, simply mentioning "the need to quit smoking" or the "need to exercise" has only minimal impact. A well-structured exercise program and plan for implementation is more likely to be effective. Despite evidence that both aerobic and weight training exercise provide benefits in older patients, many primary care practitioners do not counsel their patients regarding physical activity.[15] It is a great irony that most aging individuals know that exercise will help them remain independent, yet knowing this, still choose to remain sedentary.

Studies done in the mid 1980s found that less than half of the physicians surveyed routinely asked questions about exercise habits and only about fifteen percent reported counseling their patients more than 75 percent of the time regarding exercise.[16,17] A more recent survey[15] found 33 percent of physician respondents reported that they counseled more than 75 percent of their patients about exercise, which would suggest an improvement over earlier studies. However, the same study found that 17 percent reported they counseled no more than 25 percent of their patients.

Interestingly, the physician's own physical activity and fitness level has been correlated with their willingness to counsel patients regarding exercise.[15] Several other barriers to exercise counseling have also been identified. In a 1993 survey of general internists,[15] Sherman and Hershman found that lack of time to counsel patients was the leading reason physicians identified as a barrier to exercise counseling. Other reasons cited by the physicians included: (a) patient disinterest and the belief that counseling would not lead to a change in patient behavior, (b) the physician's lack of or inexperience with exercise counseling skills, (c) other lifestyle changes with higher priorities, and (d) insufficient reimbursement for time spent in exercise counseling. Other less frequently cited reasons included physicians not being convinced that exercise was beneficial or that lifestyle was simply a matter of personal choice and counseling was inappropriate.

The result of this recent study would suggest several interventions which might be useful in encouraging physicians to counsel elderly patients about exercise. While reimbursement for preventive care generally is poor, the benefits to patients remain great. Hopefully, health care reform will emphasize prevention and improve reimbursement for healthy life style counseling. In addition, physicians could make use of lay disciplines to assist in counseling and save physician time. This may include referral to exercise physiologists, activity or recreational therapists, and local senior citizen centers which have supervised exercise groups. Many athletic clubs now employ knowledgeable physical trainers who may help too. While this approach may be useful in more urban areas, physicians practicing in rural areas may find that training one of their office staff to perform exercise counseling may be useful. The American College of Sports Medicine (ACSM)[18] provides training and certification for exercise leaders. Several books and educational videos describe exercise programs for older adults. Munnings has recently published an illustrated paper of great value to physicians and their patients.[19]

We have found that, in general, elderly patients are eager to discuss fitness with their physicians and respond well to exercise programs. This is supported by literature which indicated that 72 percent of patients wanted their general practitioner to discuss problems with fitness.[20] While not all patients respond to exercise counseling, a significant proportion will benefit from the time spent by the physician or non-physician counselor. Exercise pre-

TABLE 1.
BARRIERS FOR PHYSICIANS IMPLEMENTING EXERCISE RECOMMENDATIONS FOR ELDERLY PATIENTS

BARRIER	INTERVENTIONS
Lack of physician comfort in in prescribing an exercise regime.	Physician education. Physician office staff education. Referral to outside source, YMCA, senior center activity groups, athletic clubs.
Reimbursement not sufficient.	Refer to others for counselling (see above). Health care reform?
Patient not interested in exercise.	Education (by physician or other counselor). Repeated encouragement. Trying a variety of exercise formats. Economic incentives with health care/ insurance reform?

scription directed by the physician is important. Simply giving permission and strong encouragement is also most effective.

There is ample evidence that appropriate exercise can effectively combat disuse atrophy, and time has come when such exercise should be assertively prescribed. The elderly need far greater encouragement and direction from the medical community to change from their pajamas into some workout clothes. There are growing numbers of allied health personnel with experience and training to meet the needs of many more members of the community of elders. Exercise physiologists, exercise leaders, and well-trained health care workers are available to instruct, supervise, and motivate older adults during the early stages of systematic exercise. Improved fitness is its own reward. Elderly individuals who begin to feel improvements in strength, endurance, and daily function more easily move to engage in regular exercise regimes. ❐

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Editorials

EXERCISE AS A CLINICAL TOOL

Improving the health of the people in South Carolina is a salient goal of medical professionals in this state. The role of exercise in clinical care has not been fully explored as an aid in accomplishing that result. Articles in this issue of *The Journal*, by focussing on Exercise as a "Broad-spectrum Adjuvant," can increase awareness of its potential role in promoting, maintaining and, for many diseases, restoring health. Rediscovering this "old technology" requires engaging both doctors and patients who are motivated, informed and ready for new behaviors. The accompanying articles attempt to assist that process. They reference existing practices and suggested methods, the remarkable range of conditions in which appropriate exercise regimens help, and the desirable outcomes that occur when exercise is assimilated with one's lifestyle.

In this century humans have markedly accelerated the discrepancy between naturally occurring levels of physical activity and the physiologic norms that were developed by our species over multiple millennia. Many of the "advantages" of modern society are at odds with exercise, as a natural component of living. Thus, while it is generally agreed that physical activity is preferable to being sedentary, the impact of exercise, properly applied, on health has often been ignored or underestimated. The relationship of exercise to health rates review, since the encoded and transmitted wisdom of the human body is not likely to yield its ways simply because mechanical and robotic devices offer new options to replace bodily exertion.

Modern life has suppressed opportunities to engage in physical labor and has created an imbalance between social patterns and biological functions. A counteraction has been introduced, "Recreational Exercise." The body, deprived of manual work, seeks ergometric relief. Unfortunately it is no longer under good instinctual control. It misjudges need: doing too little, too much or irregular engagement in both extremes. So we have come to need specially trained persons in our society to calculate the need for exercise, develop methods for delivery, teach its application, and track its implications. Many implications of that work relate to health and disease, so physicians are part of the cadre of exercise experts. For medicine, clinically prescribed exercise is the analog of a synthetic drug, given to meet a biological requirement, which was formerly produced endogenously, but now, through maladaptation, requires exogenous supplementation.

Some clinical precision is required in assigning an exercise regimen. A prescription is written for "w level(s) of x exercise(s) for y units of time and z frequency per week." Each is for a unique patient and considers that individual's age, psychological readiness, occupation, reproductive status, past and current medical history. An inadequate dose impairs good homeostatic balance (bone mineral depletion, obesity, hypertension). Overdosing, which is foolish and avoidable, invites metabolic and structural dysfunctions. A "wrong" exercise prescription can induce iatrogenic errors evoking pain, further remedial measures or invalidism. Therefore, the role of the physician using Exercise in clinical care involves training, staffing and sometimes referral in order to effectively translate/transmit those interventions which, based on bio-scientific principles, are appropriately tailored to the patient's characteristics and condition.

The following vignettes should trigger recognition of the place of exercise in clinical practice as a significant determinant of health.

(1) Many South Carolina children formerly walked to school. They have now exchanged that activity for a ride on a yellow bus and a place in the cheering section of gym school bleachers.

Clinical Response: Early incorporation of exercise as a component of daily routine promises a payoff in the classical prevention ratio of 16:1. Neither doctors nor patients should resist those odds.

(2) Adolescent males (often encouraged by ambitious coaches or neglectful parents) can through ignorance of proper physical limits, dangerously jeopardize the health of their bones, joint and supporting tissues in the pursuit of "sports" in South Carolina high schools.

Clinical Response: Should better counseling be introduced to control potentially physically abusive practices and to (re)educate those at risk before unnecessary bodily damage occurs? Is it professionally ethical to side-step doing so?

(3) Neither the over-zealous teenage ballerina nor the twenty-something amateur rugby Wantabe-Champ knows how or when to draw the line between reasonable activity and serious physical excesses.

Clinical Response: Health-promoting participation in athletics builds and maintains bones, and wards off osteoporosis that may develop years hence. However, less prudent courses of extreme physical activity generate hormonal dysfunction, musculoskeletal insults, etc., with hardly any waiting period at all. Will these patients' MDs offer clinical counsel to those at risk? How? When?

(4) Many South Carolina farmers have ceded the demands of agrarian labor to machines or have migrated to office jobs in town.

Clinical Response: Vicarious Exercise Equivalents (VEE) are not listed in the pharmacopeia. What specific alternatives are indicated? Are they consciously included in routine clinical care consultations?

(5) During her 60s and 70s, this gentle Carolina lady liked to take daily walks. Now an octogenarian, she is seated as a participant in an aerobics class.

Clinical Response: Congratulate her on enjoying the just reward she's earned – and on her verve, vitality, and vivaciousness (VVV).

Please note the essentials of successful clinical use of Exercise suggested by these cases:

- Patients learn to take responsibility for their own resolve and actions;
- Physicians provide knowledge, commitment and explicit counseling skills;
- Prudence, a shared obligation, modulates the type, dose and frequency of exercise to meet the patient's changing needs and circumstances.

The vignettes, above, along with the articles in this issue present exercise in the contexts of health promotion, disease prevention and interventive therapies. Sedentary lifestyle is a risk factor that has become common to patient populations along the entire life spectrum. It affects the health, medical stability and longevity of adult women, men and children. By its presents, or absence, it produces predictable outcomes on specific organ systems, on the incidence and severity of specific diseases, on the occurrence of avoidable disability, and on the quality of life. Exercise is, therefore, an important clinical tool.

If astute, we can listen and heed the human body telling us about the wisdom of exercise. Clinical knowledge necessarily expands and modifies those messages. Working as joint interpreters and implementers, doctors and patients can produce and comply with prescriptions for proper exercise. The health interests of individuals and of the population of South Carolina will be better served by doing so.

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PHYSICAL ACTIVITY IN SOUTH CAROLINA

A physically inactive lifestyle is unfortunately a way of life for most South Carolinians. Sedentary lifestyle is defined as the lack of regular, moderate physical activity for at least 30 minutes, three or more times a week. A recent survey conducted by the South Carolina Department of Health and Environmental Control's Center for Health Promotion revealed that more than two-thirds of South Carolinians are sedentary.

An increasing body of evidence based on scientific studies from around the world emphasize physical activity as an important part of healthful living. Many doctors are writing "fitness prescriptions" to encourage patients to change their sedentary habits into physically active ones. Generally, physically active people not only live longer, but are able to maintain physical vigor and an improved quality of life until their late years.

Regular physical activity has been proven to help prevent and is often used in the treatment of hypertension, noninsulin-dependent diabetes mellitus, osteoporosis, obesity and mental health problems such as depression and anxiety.

Heart disease is one of the major killers of South Carolinians. It is important that we take notice of the impact physical activity can have in deterring this deadly disease and on our lives as a whole.

Younger adults can also benefit from an active lifestyle. Increased energy reserves, stronger bones and muscles as well as improved movement skills are just a few of the benefits that should attract younger adults. Planned physical activity can help boost self-confidence, self-esteem, and self-control.

Realizing all of these benefits, it's difficult to understand why more young adults are not involved in physical activity. According to the 1990 South Carolina Youth Risk Behavior Survey conducted by the University of South Carolina Department of Health Promotion and Education, our high school young adults are not physically active. The survey showed that 46 percent of females and 65 percent of males reported not exercising outside of the school environment. It is obvious that a significant portion of these young adults are following in our sedentary footsteps.

The time to motivate our children to include physical activity as an important part of their daily lives is at a very early age. The best way to reinforce this is by being a positive role model.

Educating our citizens on the importance of a physically active lifestyle will benefit our state from an economic and social perspective, and that's a win-win situation – one that is every senator's dream.

Senator Warren K. Giese
P. O. Box 142
Columbia, SC 29202

Ed. Note: Senator Giese is a member of the President's Council on Physical Fitness and Sports.

On the Cover:

BeneFIT for Life — Get FIT

South Carolina's first statewide physical activity campaign took place May 1993 with BeneFIT for Life — Get FIT as the campaign slogan. This slogan was exemplified by the many feet in the campaign logo.

The intent of the campaign was to educate South Carolinians on the importance of engaging in light to moderate physical activity as a way of life. The campaign's message was that regardless of age, race, sex, physical ability or inability, everyone can and should be physically active in some way.

Many state agencies, non-profit organizations, businesses, and individuals worked together to form a steering committee to oversee the campaign. Initiated by the South Carolina *Healthy People 2000* Coalition, the campaign was designed to meet the year 2000 physical activity objectives for South Carolina.

May was proclaimed as "Physical Activity Month" for South Carolina by Governor Carroll Campbell. Mayors throughout the state also proclaimed May as "Physical Activity Month" for their city or town. Numerous physical activities took place to deliver the message that a lifestyle engaging physical activity is a necessary component for a healthier life.

The campaign logo was created by Greg Glymph and the Art Department at the South Carolina Department of Health and Environmental Control (DHEC).

Susie Brenfleck, M. M. C.
Campaign Coordinator
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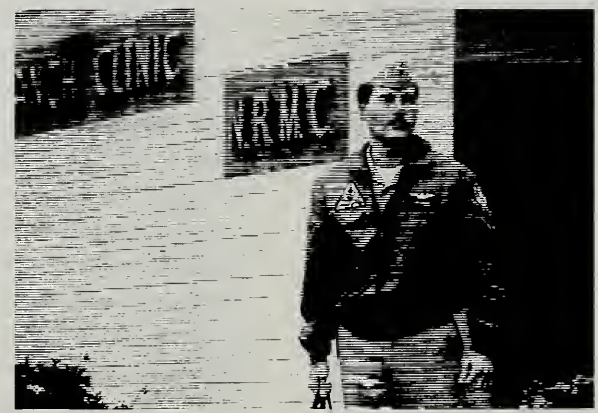

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Alliance Page

THE 1993 AMA ALLIANCE ANNUAL SESSION

The annual session of the AMA Alliance was held at the Drake Hotel in Chicago, June 13-16, 1993. Attending were Betty Hester, Donna Abercrombie, Kiki Sanford, Alice Markowitz, Laurie Schwarz, Mar-Kay Alford, and Hope Grayson. The historic moment of the official name change from auxiliaries to Alliances was highlighted with the changing of the logo and a multimedia presentation showing that over 30 state have become Alliance, with South Carolina being one.

Former Miss America, Marilyn Van Derbur, captivated convention delegates as she shared her steps toward recovery as an adult survivor of incest. Dr. Alvin Poussaint, Professor of Psychiatry and Associate Dean for Student Affairs at Harvard Medical School, gave the keynote address for the House of Delegates opening. He discussed the serious dimensions which are slowly destroying the American family. Other speakers were Cokie Roberts, ABC News Special Correspondent, who shared her views of “Congress and the White House.” Beverly Sills, General Director of the New York City Opera, highlighted her rise to become America’s best in the operatic field. Dr. John Clowe, AMA President, and Dr. Palma E. Formica, AMA-ERF President, related how $2.5 million was raised through the collective efforts of the AMA and Alliance.

Focus '93-94 chose “One Choice: AMA Alliance” for the year’s theme: Key committee themes are:

Health Promotion	“One Choice: One Action”..... Domestic Violence Prevention
AMA-ERF	“One Choice: One Hour”..... Buy one hour of medical education for $21.03
Legislative Affairs	“One Choice: One Voice”..... Physicians and spouses speaking as one
Membership Development	“One Choice: One Plus”..... One additional county, state, and national member from each county nationwide

The House of Delegates voted to stress 100 percent federated membership (county, state and national). Also the Planning and Development Committee has been phased out and a Strategic Planning Task Force will be appointed to establish future goals for the Alliance. Hope Grayson reported for the SCMA Alliance which received recognition for 75 percent unified membership and a membership award. We are extremely pleased that Hope Grayson will be serving on the 1993-94 National Membership Development Committee.

Mary Hanson of Colorado Springs, Colorado, was installed as the 1993-94 AMA Alliance President as this House of Delegates ended.

Donna Abercrombie (Mrs. Stoney A.)
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President's Page

TURN THE PAGES BACK

The health care theme of the 1960s and 1970s was insufficient physician supply. As a result, new first year enrollments at US medical schools rose from approximately 8,500 in 1961 to approximately 16,000 in 1986. The latest survey on physician manpower concludes that there will be an ample supply of physicians in the foreseeable future. The problem we now face is the specialty distribution of these physicians.

Primary care doctors, those who specialize in family medicine, pediatrics or general internal medicine, are expected to be the key to health care reform in containing health care costs. If more people had a family doctor they wouldn't need to go to the emergency room for routine care and wouldn't ignore symptoms until they became too advanced to treat effectively in an economical fashion. In South Carolina, approximately one half of physicians go into primary care practice after completing their residency, but only about eight percent of South Carolina doctors settle in rural areas of the state. Nationally, almost one-fourth of Americans or 55 million people are rural residents. Rural residents, in part because of deficiencies in medical services, suffer higher rates of chronic and serious illness than urban Americans.

The rural population has an increased poverty rate compared to the national rate. Rural populations also demonstrate an increased proportion of elderly and poor patients. Family practitioners have the greatest overhead of all specialties, spending 51 percent of their gross revenue on expenses. Perhaps the most important deterrent to primary care practice is loosely defined as lifestyle. When one considers the relatively long hours involved in providing this care, it belabors the obvious to state that the income realized by primary care physicians is far less than any other field and not at all related to the time spent in providing service. Currently advocated is a goal of 50 percent US medical graduates going into primary care. The current national percentage is around 25 percent. I'm sure that we will see a number of legislative initiatives address this distribution.

It is time that we as a profession work with communities, government and our medical schools to promote change in the physician specialty and geographic distribution. Physicians need to work together to promote a more equitable distribution of income. Medical schools need to dedicate increased resources to primary care programs. The local communities need to identify and promote advantages of their particular locale for primary care doctors. State and federal governments need to provide financial incentives for training, recruitment and retention of primary care physicians. All specialties need to work together to provide optimum health care to our population in the most cost efficient manner possible.

E W Catalano MD

Edward W. Catalano, M. D.
President

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VOLUME 89
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Contents

Original Scientific Articles

415 **Essential Hypertension: Historical Perspective, Mechanisms and an Approach to Treatment**
Arthur V. Williams, Jr., M. D., Newton C. Brackett, Jr., M. D.

427 **Management of Ventilation Tubes: Preventing Premature Extrusion**
Juan A. Brown, M. D.

435 **Continent Urinary Diversion and Bladder Substitution**
Nabil K. Bissada, M. D., Ian Y. Marshall, M. D., Anthony Kaczmarek, M. D.

Special Article

439 **Criminalization of Health Care**
Celeste Tiller Jones, J. D.

Editorials

449 **The Rock**
William J. Goudelock, M. D.

450 **The Changing Image of Peer Review as Relates to the Physician**
John W. Rheney, Jr., M. D.

451 **Lacrimae Rerum**
C. D. Bessinger, Jr., M. D.

Features

456 **Alliance Page**
452 **On The Cover**
413 **President's Page**

Association

445 **CME Calendar**
453 **Gray Matter**
457 **Physician Recognition Award**
431 **SCMA Newsletter**

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ESSENTIAL HYPERTENSION: HISTORICAL PERSPECTIVE, MECHANISMS AND AN APPROACH TO TREATMENT*

ARTHUR V. WILLIAMS, JR., M. D.**
NEWTON C. BRACKETT, JR., M. D.

In 1934, Goldblatt and his associates firmly established a mechanism for the kidney's initiation of hypertension.[1] This work stimulated a research explosion designed to clarify this relationship between the kidney and hypertension and also to explore other roles the kidney might play in the initiation and maintenance of essential hypertension. This review will examine some of these relationships and attempt to apply them to treatment.

GENETIC PREDISPOSITION

An interplay of environmental and genetic factors involving the kidney, blood vessels and nervous system play a role in the initiation and perpetuation of high blood pressure.

The role of the kidney in essential hypertension has been reviewed by Luke who discusses normotension following transplantation of a kidney from a normotensive patient into a hypertensive, the role of the renal vasculature following the administration of cyclosporine and the role of salt intake, particularly the lack of hypertension in a hypertensive prone rat given an increase in L-Arginine (which relates to the production of endothelium derived relaxing factor, a potent vasodilator), and the progression of renal disease in essential hypertension in spite of control of pressure.[2]

In 1975 a study by Haas, et. al., suggested a genetic defect manifested by accelerated sodium-lithium exchange across cell membranes.[3] The introduction of lithium into the therapy for affective psychoses led to the study of its red cell concentration for control of dosage. It was found that the concentration in the red blood cell, approximately one third those of plasma, must be achieved by active transport, not simple diffusion across the cell membrane. It was later determined that there was exchange across the membrane of sodium into for lithium out of the cell and that the energy for the exchange derived from the electrochemical potential gradient for sodium across the cell membrane.

Five years later it was determined that in a group of hypertensives sodium-lithium exchange across the red cell membrane was

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accelerated and separate from the usual ATPase energy source of sodium transport, being unaffected by ouabain. It was postulated that this was an inherited marker for hypertension.[4] The same authors believe that a plausible hypothesis is that the same change in sodium transport is also present in smooth muscle and that calcium transport might be secondarily altered, increased calcium content being responsible for increased vascular resistance.

It now seems clear that increased Na-Li exchange is a genetic marker for hypertension in the white population and is not present in secondary hypertension or in the black population.[5]

More recently the measurement of intracellular ions in red blood cells by nuclear magnetic resonance in red cells has demonstrated, as postulated above, increased free cytosolic calcium as well as decreased magnesium and pH. These findings may also occur in diabetics, the obese and in patients with increased left ventricular mass.[6]

Increased sodium-lithium countertransport is also seen in insulin dependent diabetic patients conferring a fourfold risk of development of nephropathy with accompanying hypertension and is associated with poor glycemic control, lipid disturbances, left ventricular hypertrophy and reduced insulin sensitivity. This aggregation of risk factors with a strong genetic basis occurs in a subset of diabetic patients.[7]

It becomes increasingly evident that a strong component of hypertension is genetically determined, and that the gene controlling sodium-lithium transport is in part responsible.

The identification of other responsible genes is in progress.

THE RENIN-ANGIOTENSIN SYSTEM

A relationship between the kidney and hypertension had long been known but satisfactory experimental models were not available until the work of Dr. Harry Goldblatt in 1934. Prior to this classical work hypertension was associated with experimental animals in which kidneys had been poisoned with nephrotoxic substances such as uranium, antisera and mercury, surgically resected totally or partially, infarcted by arterial ligation totally or partially, embolized, irradiated, congested by venous occlusion, obstructed by ureteral ligation, and compressed by wrapping in cellophane or silk.[8] Goldblatt developed a clamp to compress the renal arteries of dogs and demonstrated reproducible transient hypertension with a single kidney clamp and permanent increase in pressure with clamps on both kidneys or on a single kidney with contralateral nephrectomy. In the conclusion of his classic paper he wrote, “It is hoped that these investigations will afford a means of studying the pathogenesis or hypertension that is associated with renal vascular disease.”[1] His hope was fulfilled and multiple workers, the most productive in the United States and Argentina, soon solved the puzzle of the hypertensive substance, renin, an enzyme that cleaved angiotensin from a plasma protein precursor (angiotensinogen). Angiotensin, not renin, proved to be the vasoconstrictor responsible for hypertension.[8] Skeggs and his associates completed the chain by indentifying inactive angiotensin I (then called hypertensin 1) and its conversion to vasoconstrictive angiotensin II by a converting enzyme in plasma.[9]

During the 40 years of angiotensin investigation other major actions have been identified, notably the potentiation of tubular sodium recovery and the stimulation of aldosterone release from the adrenal gland. These properties play an important role in sodium balance and in the modulation of blood pressure.[10] In addition a recent study suggests that hypertensives with high plasma renin activity are at greater risk for myocardial infarction.[11]

It has been suggested that angiotension is a local vasodilator. It is generated at target binding sites by prorenin that traditionally was thought to be inactive. The consequent high local concentration of angiotensin II in arterioles causes regional vasodilation by tachyphylaxis or by release of vasodilator substances. Local vasodilation in the presence of systemic hypertension may be responsible for the hyperperfusion injury of diabetes mellitus or similar damage during pregnancy if blood pressure rises and target organs are vasodilated because of local prorenin activity.

In essential hypertension the renin-prorenin relationship defines the vasoconstrictor-vasodilator effectiveness of the renin system and not plasma renin alone. A low level of prorenin may contribute to increased blood pressure in certain patients because renal vasculature may not dilate normally. A low prorenin-renin activity may also explain the protection of most essential hypertension patients as well as their lower renal blood flow and increased filtration fraction.[12]

The concept of "normal renin" in a hypertensive person is probably inappropriate. The normal reaction of the renal pressure receptor to an elevated blood pressure of any cause is a complete cut-off of renin secretion as occurs in normotensives. Therefore, nephron heterogeneity has been postulated to occur in the essential hypertensive with some locally ischemic nephrons secreting renin and others appropriately suppressed.[13] The therapeutic effectiveness of ACE inhibitors depends in part upon this inappropriate secretion.

The effectiveness of an opposing force in the regulation of renal blood flow, the bradykinin system, has been reviewed. Bradykinin is cleaved from an inactive precursor, kininogen, by tissue kallikrein found in blood vessls, kidneys, brain and heart. It acts at its site of generation as a vasodilator. It is inactivated by kininase 1 that is identical to converting enzyme of the renin system. If bradykinin's inactivation is prevented by use of a converting enzyme inhibitor blood pressure lowering is enhanced. A recent study suggests that approximately 30 percent of the hypotensive effect of a converting enzyme inhibitor is due to increased bradykinin.[14] In essential hypertension some studies show reduced urinary kallikrein excretion whereas no difference from normals is found in others. The relationship of kallikrein excretion to human hypertension is controversial.[15]

THE SYMPATHETIC NERVOUS SYSTEM AND SALT

That the genesis of human essential hypertension is somehow related to renal regulation of sodium balance and environmental stress is an enduring hypothesis. Nevertheless, numerous biochemical measurements, while suggestive, have failed to yield convincing evidence that abnormal catecholamine secretion or metabolism of abnormal nervous system function participates significantly in the established forms of chronic human hypertension.[16] The relationship between renal function and hypertension has also been difficult to establish in the absence of an abnormal renin-angiotensin axis. Disease resulting in glomerular destruction or surgical ablation of renal mass in animals may lead to uremia without hypertension in the absence of fluid overload.

However, there is extensive innervation of pre and post glomerular blood vessels. In addition, there is innervation of tubules with the greatest relative density found in the ascending loop of Henle and the distal convoluted tubule, the sites of greatest tubular salt recovery.

Sodium retention with adrenergic stimulation may be secondary to change in renal blood flow, glomerular filtration rate or sodium reabsorption from innervated tubules. Stimulation insufficient to change renal hemodynamics may still energize tubular salt and water reabsorption this accompanied by an increase in renin reflecting a contribution from the macula densa neuro-receptors.[17]

The kidneys play a dominant role in long term blood pressure regulation. Essentially, there is a kidney volume - pressure feedback mechanism. Salt intake is followed by an increase in blood volume and blood pressure with counter-regulatory controls leading to a "pressure naturesis" restoring balance. In essential hypertension, renal hemodynamics are altered in such a way that balance is achieved only by a sustained increase in arterial pressure. The initial abnormality impeding salt and water diuresis may be the consequence of an intrinsic renal defect or of extrinsic factors such as alteration of sympathetic inflow.[18]

Folkow, in a thorough review, has discussed the interplay of factors responsible for hypertension:

1. A polygenetically inherited predisposition with humans having different constellations of predisposing genes varying in power.
2. Certain environmental elements such as salt intake and psychoemotional forces.
3. Certain secondary adjustments with rapid structural adaptation of the heart, systemic arteries and arterioles that might also be genetically reinforced.

Interplay is complex, compounded by a demand for salt in civilized societies, emotional reactions organized millions of years ago to cope with the realities of primitive life but inappropriate for the sophisticated challenges of modern society and a constellation of genetic predisposing factors.[19] In the past Dr. Irvin Page postulated in his "Mosaic Model" the complex interplay of a constellation of neural, humoral and hemodynamic factors.[20]

GENETIC PREDISPOSITION: THERAPY

Hypertension usually seen in practice occurs more commonly in patients age 55 and older. Most of these have calcium influx dependent renal and peripheral vasoconstriction in all likelihood mediatd by defective ion transport and increased vascular calcium signaled by faulty sodium-lithium exchange. This category of patients also has baro-receptor reflex blunting, slower heart rates than younger hypertensives, low renin levels found with renin profiling, and increased sympathetic input exaggerating calcium dependent vasoconstriction. Monotherapy with a calcium antagonist may be effective in a high percentage of these patients. This does not exclude the use of other drugs since 50 percent of the elderly will not respond to monotherapy compared to 30 percent of younger patients. Calcium antagonists may also have favorable effects on the genesis of atherosclerosis and are becoming preferred therapy in the group described above.[21]

THE RENIN-ANGIOTENSIN SYSTEM: THERAPY

The angiogensin converting enzyme inhibitors (CEI) have unique advantages in hypertensive therapy. Although reduction in left ventricular hypertrophy is reported with the use of many antihypertensive drugs, it is possible that reduction in left ventricular mass with CEI's may be unique in that there is reduction in muscle mass but, experimentally, also in myocardial collagen content.[22] Decrease in muscle mass with maintenance of collagen would seem teleogically disadvantageous. In addition, ACE inhibitors increase arterial compliance (probably because of a decrease in angiotensin II induced arterial hypertrophy and collagen synthesis), improve signs, symptoms and mortality in patients with congestive heart failure and have potentially anti-ischemic and anti-arrhythmic activity without depression of resting myocardial function.[23]

THE SYMPATHETIC NERVOUS SYSTEM AND SALT: THERAPY

Salt restriction has long been standard antihypertensive treatment. It is of interest that most patients with essential hypertension are slightly oligemic and that, in men, plasma volume and blood pressure are inversely related. It is probable that, as with diuretic use, fall in pressure with salt restriction is not volume related but due to both diminished peripheral vascular reactivity and arterial response to norepinephrine, increased venous capacitance and decreased responsiveness to sympathetic nervous activity.[24]

Hypertensives may be sensitive or insensitive to salt with pressure increasing or remaining stable with added dietary sodium. It has been suggested that impaired suppressibiliy of norepinephrine is responsible for sensivity. Although 40 percent of patients do not display a rise in blood pressure with high sodium intake, the vast majority respond with a fall in blood pressure with sodium restriction.[25] Thiazide diuretics have been first line therapy for essential hypertension whatever the mechanism of salt retention. Studied alone or in combination thiazide based regimens have reduced vascular complications of hypertension. Concerns that thiazide induced (lipid) changes cause coronary events are said to be baseless. They are best tolerated in patients over 60 and younger women.[26] Symptomatic hypokalemia, gout, and impotence in young men may deter compliance and remain real concerns. In addition, though often effective adjunctive therapy with more potent hypertensives such as CEI's, beta-blockers and calcium channel blockers, they are ineffective when used alone in controlling moderately severe to severe hypertension.

A host of anti-hypertensive agents have been designed to interfere with sympathetic inflow into the renal and peripheral circulation. The alpha blockers (Prazosin, Hytrin) have been used successfully either alone or in combination with other drugs. This group of agents reduces peripheral rate and reduces left ventricular resistance without increase in heart rate and left ventricular mass (unlike hydralazine). In addition, they are said to modulate factors responsible for atherosclerosis and are cost-effective.

Finally, beta blockers have been used to alter the vascular responses of heart and renal vasculature. Beta blockers are widely used because only this drug group and diuretics have been shown to benefit hypertensives in the hard terms of morbidity and mortality. These blockers in high risk patients reduce the late morning peak incidence of myocardial infarction but also have been shown to reduce mortality 28 days after the event. They are particularly effective in younger and middle aged patients with mild to moderate hypertension.[27]

There are multiple other antihypertensive drugs that fall into the categories mentioned but are not enumerated in this brief review.

A logical progression of drug selection in the treatment of high blood pressure would suggest that the drug most appropriate in a pathophysiologic sense to treat a particular patient as initial therapy. Essential hypertension, as discussed, is multifactorial and failure with the most judicious initial approach may precede success with another agent chosen at random. Nevertheless, an approach related to a likely cause such as CEI's for high renin hypertension or the use of an alpha blocker if sympathetic input seems high or the use of a diuretic for the black hypertensive who lacks at least one of the genetic factors of the white hypertensive and who probably has a "high volume-low renin profile" at least gives the physician the intellectual satisfaction of having employed a rational approach to treatment.

The rational for the treatment of a patient as "not just a number" has been reviewed by Applegate.[28] A recent review of interest appeared in this journal considering moderation of treatment in the elderly.[29]

SUMMARY

The mechanisms of essential hypertension have been reviewed and drugs useful in treatment discussed. Although much is known therapy remains largely empiric. Future control of hypertension depends on developments from the laboratory and carefully designed clinical trials that support the empirical. On the horizon, molecular biology promises to be progressing toward unraveling the tangle of the genetic origins of the disease. Perhaps only with this knowledge will completely rational therapy emerge.

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MANAGEMENT OF VENTILATION TUBES: PREVENTING PREMATURE EXTRUSION

JUAN A. BROWN, M. D.*

There are different tubes available for middle ear ventilation and the problem that occurs with all is random extrusion. Gates et al[1] stated that "surgical therapy does not cure patients with chronic otitis media with effusion—only time, growth, and development can—but it does substantially reduce morbidity when medical therapy has failed." Complications as multiple paracentesis of the tympanic membrane, repetitive general anesthesia, or prolonged tubal placement leaving a persistent perforation or conductive hearing loss may occur. In our experience the Goode T-tubes® provide a safe and workable method of middle ear ventilation for a prolonged period of time. The clinical condition of the patient after insertion may be used as a yardstick to determine when to remove the long term ventilation tube. The purpose of this paper is to report our experience in relation to time interval and morbidity while using the Goode T-tube which successfully prevents this random extrusion process.

METHODS

The study comprises 189 consecutive patients (370 tympanic membranes) who had office extraction of Goode T-tubes over a six-month period. Twenty-one did not return for follow up and were not included. The clinical results are assessed by retrospective review and personal interviews with the remaining 168 patients or parents (328 tympanic membranes). The tubes were removed without anesthesia or sedation, and small children were loosely restrained. The adults did not complain of significant discomfort.

The indications for removal were based on the following considerations:

1. Tubes were maintained during the winter months because of increased incidence of upper respiratory infections.
2. Without further drainage they may be removed in six months.
3. In patients with one to two episodes of otorrhea the tubes were left in position longer, e.g. 12 months.
4. Underlying medical problems such as asthma, sinusitis, and upper respiratory infections and increased episodes of otorrhea required continuation of tubes for extended periods of time (sometimes more than two years).
5. Patients who had previous tube placement retained them for more than two years.
6. As long as otorrhea responded to medical therapy we did not feel this was a cause for alarm since drainage was usually associated with other disorders such as an upper respiratory infection.

The occasional patient who developed chronic otorrhea was treated with repetitive extensive local cleaning and systemic therapy. If there was no improvement within one to two months, the tube was removed, based on the premise that cross contamination between the external canal and the middle ear migrates through the tube.

Patients with continued drainage following removal were treated by extensive intravenous antibiotic therapy and if unsuccessful, surgical intervention such as a simple mastoidectomy was considered. None of the 168 patients in this study required further surgical therapy.

RESULTS

No patient had premature extrusion of tubes. Eleven patients (6.5%) kept the tubes in position more than 24 months including one who did not return for three years (Figure 1). The largest number, 131 (78%), had the tubes withdrawn by 16 months.

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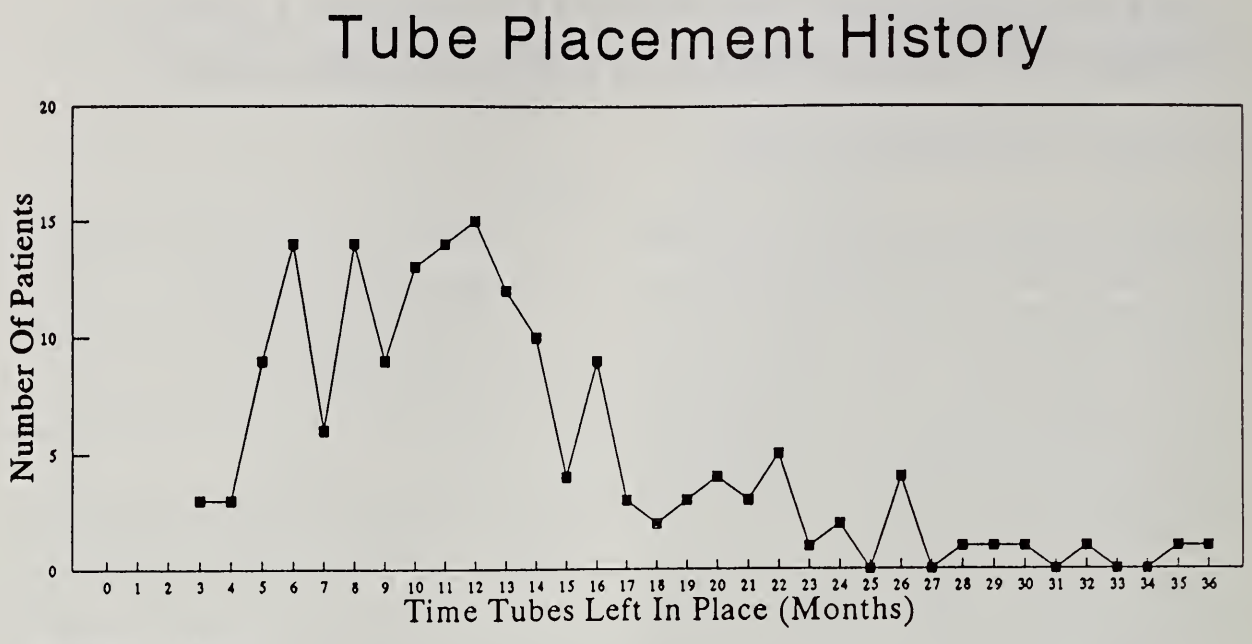
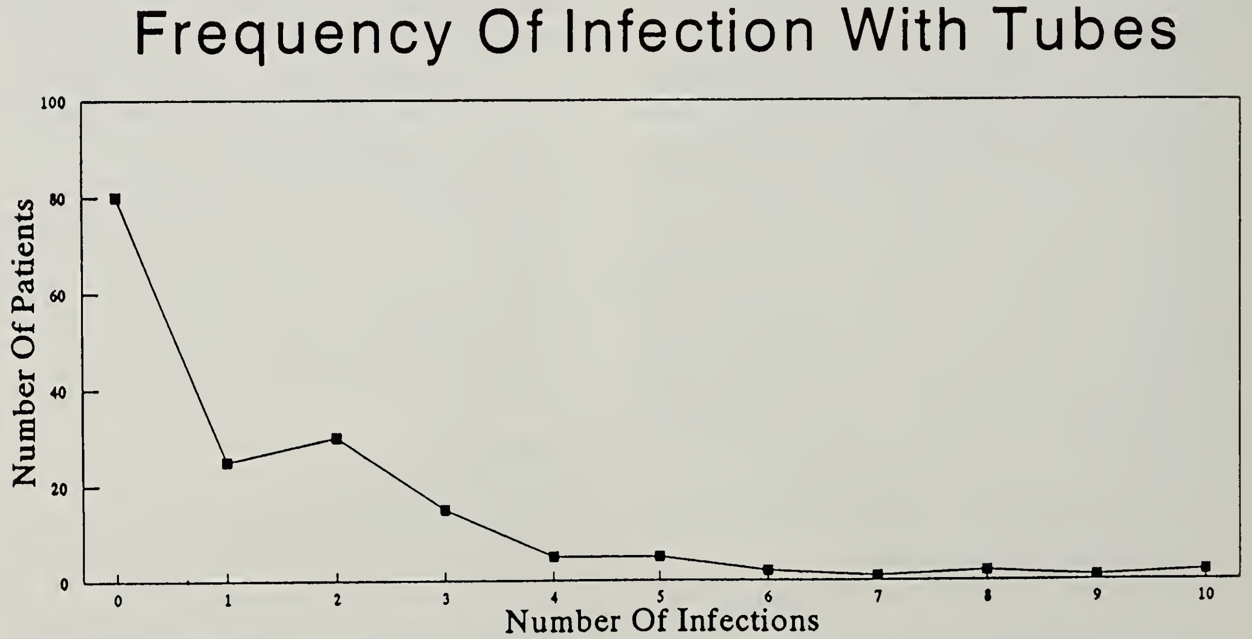


Total Population = 168 Patients

FIGURE 1

COMPLICATIONS

The incidence of otorrhea was low (Figure 2). Eighty patients (48%) had no infections, and 55 (33%) less than three episodes. Perforations persisted in eight tympanic membranes (2%) after extraction (Table 1). Two patients continued with conductive hearing loss. Patient #3 went through a complicated clinical course with infections and allergy. Despite the presence of bilateral perforations, the middle ear mucosa remains healthy without otorrhea. Patient #5 endured a large perforation pre-operatively and has had no further infections and the aperture has decreased in size. Following an underwater free dive below 15 feet patient #4 experienced severe vertigo and a pronounced infection with lysis of the tympanic membrane. His audiogram is



Total Population = 168 Patients

FIGURE 2

TABLE 1
PERFORATION POST TUBE REMOVAL

AGE AND OPERATION	TIME IN PLACE	CLINICAL PROBLEMS	AUDIOMETRIC RESULTS AND COMMENTS
1. 12 months—Bilateral myringotomies with T-tubes	14 months	None	Excellent speech development
2. 8 months—Bilateral myringotomies with T-tubes	16 months	Bronchitis, sinusitis tonsillitis, allergy, allergy consultation	30 dB conductive loss, and otalgia ceased with removal of pillow and allergy therapy
3. 12 years—Bilateral myringotomies with T-tubes	23 months (previous adenoidectomy and tubes)	Severe infection with deep underwater dive. Lysis of the TM	Audiogram normal
4. 24 months—Adenoidectomy and bilateral myringotomies with T-tubes	9 months	None—Patient had the perforation pre-operatively, right ear	No improvement in 25 dB loss, right ear. No infections.
5. 9 months—Bilateral myringotomies with T-tubes	36 months Lost to follow up	3 infections 1st year after tube insertion	Audiogram normal Lost to follow up
6. 4 years—Tonsillectomy, adenoidectomy, bilateral myringotomies with Ttubes	6 months	None	Audiogram normal

normal but perforations are residual. The remaining patients are doing well without any sequelae other than the perforations.

DISCUSSION

Goode T-tubes prevent random premature extrusion and decrease complications associated with the treatment of secretory otitis media and eustachian dysfunction. Goode[2] in his original article does not describe any significant complications but Hawthorne and Parker[3] relate their experience using the Goode T-tube with a 30 percent perforation rate stating that "there is no ready explanation for this high incidence." Rothera and Grant[4] reported better results wlth two perforations in 146 tympanic membranes (1%) although conventional grommets had previously been used unsuccessfully.

Our criteria for the length of time tubes are left in situ is based on experience and the management of each ear and patient individually. The otorrhea that may be associated with other known factors as an upper respiratory infection has no correlation with the type or length of time that the tube remains. In our practice leaving tubes for an extended period of time has improved the hearing of the patients, with the exception of patients #2 and #5. These patients had extensive preoperative and postoperative disease.

The tubes have not interfered in any way with swimming activities. Ear protection is not required and all patients are allowed to participate in normal swimming activities as long as they do not descend to deep levels (Patient #4). It is suggested that the patient avoid soapy water in the ear canals.

Residual perforations made up less than two percent of our total tympanic membranes. As long as no otorrhea or change in hearing develops, waiting from 12 to 15 months is advocated before any surgical procedure is considered such as a paper patch application or tympanoplasty.

SUMMARY

The Goode T-tube provides a safe and efficient method of ventilating the middle ear space for an extended period of time without random premature extrusion. Each patient needs to be evaluated and followed closely while these tubes are in position. The criteria for the length of time that tubes are retained and the low complication rate are presented. Selective measures for removal of these tubes have provided a reasonable, safe and cost effective means of handling chronic secretory otitis. ❐

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CONTINENT URINARY DIVERSION AND BLADDER SUBSTITUTION*

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IAN Y. MARSHALL, M. D.
ANTHONY KACZMAREK, M. D.

Supravesical urinary diversion continues to be necessary in a variety of benign and malignant conditions in which the bladder must be sacrificed or in which the lower urinary tract is nonfunctional or is irrepairably damaged. Numerous forms of supravesical diversion are available today. Currently when given the choice, most patients requiring supravesical urinary diversion elect continent urinary diversion or bladder substitution. Herein we examine the currently available forms of continent urinary diversion and bladder substitution.

CONTINENT URINARY DIVERSION

Ureterosigmoidostomy may be considered the first successful form of continent urinary diversion. However problems with late development of malignancy in some patients with ureterosigmoidostomy have discouraged its use in most patients requiring supravesical urinary diversion.[1] Continent reservoirs of isolated intact bowel were believed to be an attractive alternative. Here again, the high pressures generated in intact bowel often overcame the antireflux and anti-incontinence mechanisms. Following the pioneer work of Gilchrist, Kock and their associates, Skinner and coworkers popularized the Kock pouch continent urinary diversion in the 1980s.[2-3]

Modifications of the Kock pouch and several other techniques of continent urinary diversion continue to be introduced to improve the results and lower the high revision rate.[1,4-12] In current continent urinary diversion procedures, a detubularized bowel segment is utilized to make a low-pressure, high-compliance reservoir. This is accomplished by utilizing small bowel, ascending colon, or ileocolonic segments.[1] Different techniques are utilized to prevent reflux.

The goals in continent urinary diversion include:

1. Construction of a large-volume, low-pressure reservoir with high compliance
2. Reliable continence mechanism
3. Prevention of intestinal ureteric reflux or stenosis
4. Simplicity in construction
5. Avoidance of use of excessive length of bowel
6. Avoidance of use of synthetic material
7. Ease of catheterization
8. Avoidance of the need for revision
9. Good cosmetic appearance

After attempting a series of technical modifications, the Charleston pouch developed at the Medical University of South Carolina was found to be the most successful technique of continent urinary diversion in our hands. This procedure avoids many of the previous problems in other techniques, greatly simplifies the technical aspects, and essentially obviates the need for revision.[7-12]

Charleston Pouch

In the Charleston pouch technique, the reservoir is constructed from segments of terminal ileum and ascending colon, which are detubularized and reorientated to provide maximum reduction in filling pressures. Whenever present, the in-situ appendix is utilized to provide a continent catheterizable stoma. Almost every patient with an appendix (no prior appendectomy) who needs urinary diversion is a suitable candidate for this procedure. Even a relatively short appendix in an obese patient has not been a contraindication to utilizing the in-situ appendix in our hands. Minimal alteration of the appendicocolic relationship, which is unique to the Charleston pouch, reinforces the natural antileakage valvular mechanism of this junction.[10] This has been adequate to maintain continence as well as providing for ease of catheterization. Appendicular excision or rotation with its potential risk to the blood supply of the appendix are avoided. Bringing the appendix out at the umbilical site ensures the shortest passage to the skin level. It also conceals the stoma site. By avoiding foreign materials such as mesh or staples, the risks of stone formation and erosion are significantly reduced. Since no small or large bowel is utilized for either the antireflux or the continence mechanisms, the use of excess bowel is avoided.

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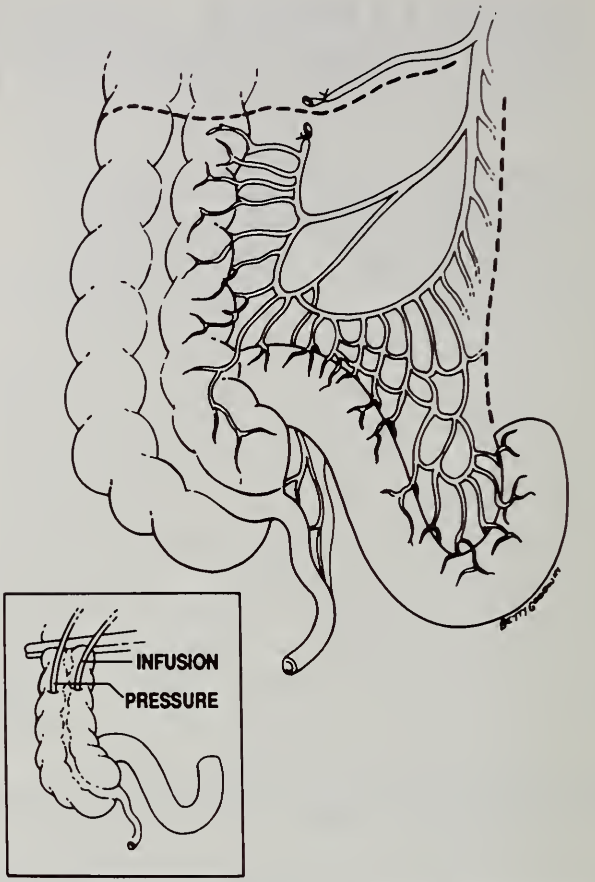

Fig. 1: Charleston Pouch construction: Segment of ascending colon, terminal ileum and appendix outlined. Mesenteric isolation indicated. Inset: Pressure measurement of the appendicular leak pressure.

Operative Technique of Charleston Pouch

After cystectomy or other preliminary procedures, the terminal ileum, cecum, ascending colon, and appendix are examined. The right colon is mobilized to the hepatic flexure. The mesenteric vessels are examined to determine the appropriate selection of blood supply to the pouch. Appropriate bowel segment consisting of the terminal 15 cm to 20 cm of ileum, cecum, appendix, and ascending colon up to the hepatic flexure are isolated with their blood supply (Fig. 1). Bowel continuity is accomplished by surgical stapling. The isolated segment is irrigated and then the distal end of the appendix is excised and the lumen is calibrated. If the lumen is narrow, it is gently dilated to 12F. Appendicular leak pressure (intracolonic pressure at which fluid escapes via the distal end of the appendix) is then measured (Fig.l, inset) to determine the need for any reinforcement of the appendicocolic junction, which is performed at this time. In most patients two or three stitches of 2-0 silk are used to invaginate about 1 cm of appendix into the cecum. Leak pressure measurement is then repeated. Almost always this is in excess of 75 cm water pressure. The ileum and colon are then detubularized and each is formed into an inverted U-shaped patch. The ileal and colonic patches are then approximated with continuous absorbable suture (Fig.2). The mobilized ureters are then reimplanted into the ascending colon without tunneling. A 24 F Malecot catheter is left indwelling. The two intestinal patches are then approximated to establish a large globular pouch (Fig. 3). The appendix is then passed through a 1 cm core through the abdominal wall and is anastomosed to the skin at the umbilicus. A 10 F to 12 F red rubber catheter is left as a stent in the appendicular stoma.

In the absence of an appendix, a short segment of tapered terminal ileum (neoappendix) is utilized instead of the appendix. Our analysis of the first 40 patients who have had the Charleston pouches has been gratifying. Patient satisfaction, continence and renal

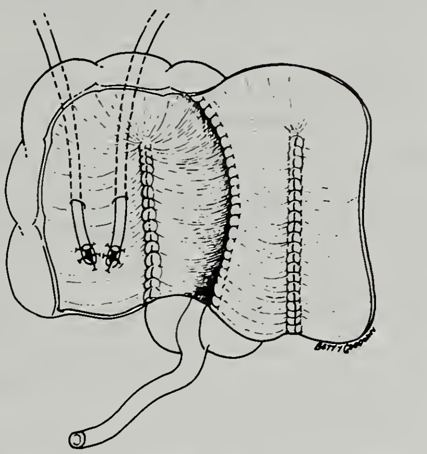

Fig. 2: Charleston Pouch construction continued: Ascending colon folded to make colonic patch. Ileal segment folded to make ileal patch. Two patches anastomosed. Ureters reimplanted in the colonic patch.

function preservation have all been satisfactory. There has been no need for postoperative revision of either the continence or antireflux mechanisms in any of these patients.

BLADDER SUBSTITUTE PROCEDURES

One of the earliest attempts to form an artificial bladder in a dog was by Tizzoni and Foggi in 1888. In 1951 Convelair reported the results of a similar attempt in humans and demonstrated its clinical feasibility. Cammey and Le Duc reported their results with bladder substitution using an intact tubularized ileum. Likewise the ileocolic segment was also used for bladder replacement by several authors.[1]

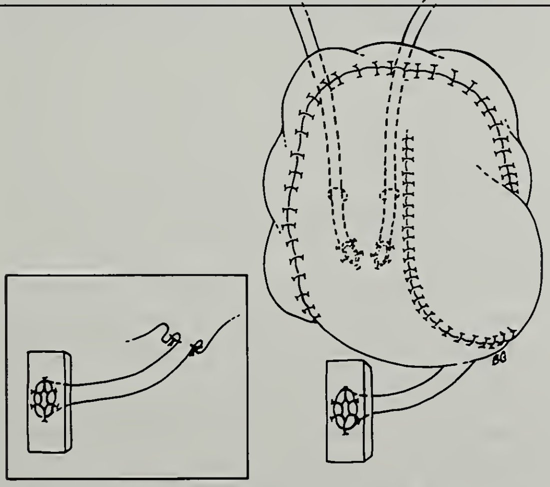

Fig. 3: Charleston Pouch construction continued: Ileal patch approximated to colonic patch anteriorly to form a globular pouch (from Bissada NK: AUA today 5 (2):4,1992, by permission)

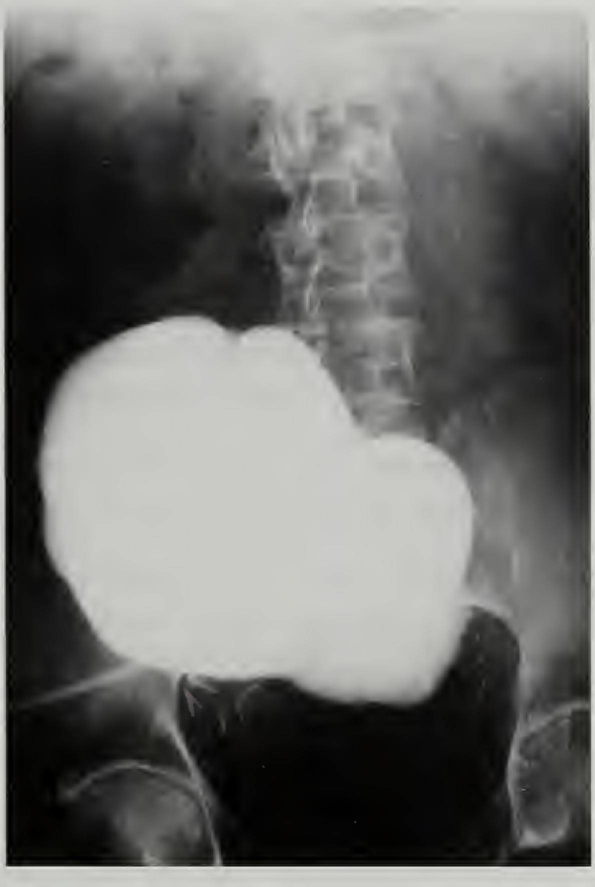

Fig. 4: Charleston pouchogram obtained by instillation of contrast material via catheter introduced through appendicular umbilical stoma. Note absence of ureteric reflux.

More recently, interest has focused on several new techniques for bladder replacement after cystectomy. Ghoneim, Kock, and their associates reported their use of the urethral Kock pouch in which the pouch is anastomosed to the urethra.[13] Favorable experience with this procedure has also been reported by others.[14] Others have reported other techniques utilizing ileum, ileocolonic, and sigmoid segments for bladder replacement.[1] All those procedures are performed exclusively in males and the intestinal bladder is anastomosed to the membranous urethra after cystoprostatectomy. Continence depends on the membranous urethral continence mechanism. Voiding is accomplished by increasing intra-abdominal pressure (straining). Daytime continence is eventually achieved in the majority of patients after a period of maturation.[1,13] In the few patients who remain incontinent (about 10 percent), the cause of incontinence is either urethral damage or failing antireflux mechanism. However, enuresis occurs more frequently than daytime leakage and is attributed to the lowering of urethral resistance during sleep. The main concern with bladder replacement procedures is the risk of cancer recurring in the urethra. Patients considered for those procedures should have thorough prostatic biopsies. Preoperative demonstration of urothelial carcinoma in the prostate is a contraindication to using the urethra.[1]

The current technique of bladder replacement in females after total cystectomy (rectal bladder) was introduced by Kock and associates in 1988.[15] In this technique the rectum is incised longitudinally in the anterior midline for 10 cm. A one-way intussusception valve is constructed in the rectosigmoid junction. The ureters are placed between the layers of the intussusception valve with mucosa-to-mucosa anastomosis between the intestine and ureters on the summit df the intussusception. An ileal segment is used as a U-shaped patch for augmentation by suturing it into the longitudinal opening in the anterior rectal wall.

SUMMARY

Various forms of supravesical urinary diversion and bladder substitution are currently available. Several factors are considered when deciding which procedure to perform. These include the patient's medical and psychological condition, needs and preferences as well as the surgeon's experience and preferences. While ureterosigmoidostomy is seldom utilized today, it still has a place in properly selected patients with limited life expectancy. Standard ileal conduit remains a reasonable choice in some patients who do not wish or are not suitable candidates for continent forms of diversion.

Continent urinary diversion and bladder substitution are attractive choices for most patients needing supravesical urinary diversion. We have found the Charleston pouch to be the ideal form of continent urinary diversion. While continent urinary diversion and bladder substitution improve the quality of life and are well accepted by patients and their urologists, potential complications must be recognized. Long-term follow-up is essential.

Finally, patients who have had definitive diversion, such as ileal or colon conduit may now be considered for undiversion or for conversion to continent urinary diversion. ❒

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CRIMINALIZATION OF HEALTH CARE

CELESTE T. JONES, J. D.*

On January 13, 1993, the Secretary of Health & Human Services (HHS), the Director of the Office of Management and Budget (OMB) and the Department of Justice (DOJ) issued a press release concerning their joint efforts to "combat health care fraud and abuse." According to these offices the United States spends more than $900 billion annually providing health care and three to 10 percent of every dollar constitutes health care fraud and waste. The administration has formed this joint agency "task force" to direct prosecutions of health care providers.

The belief that health care fraud is prevalent permeates these agencies. The federal government intends to pursue perpetrators vigorously. In fact, the DOJ has transferred 50 FBI Agents from counter-intelligence to specialized investigative units concentrating on health care investigations. As the Cold War ended, intensified health care prosecutions began. The President's 1993 budget proposes increasing funds for investigative use at HCFA by $56 million. The message is clear. The federal prosecutors are actively searching for physicians to prosecute for health care fraud. They are also establishing data bases of all final adverse actions and certain active fraud investigations against health care practitioners.

WHAT IS FRAUD AND ABUSE?

The question seems simple and the bright line answer is also. Fraud and abuse is anything on the HCFA form 1500 that is not correct. It can be the patient's name, the date of service, the diagnosis or the procedure code being billed. If any item is incorrect, the result is a false claim. 42 USC §1320(a)-7(b) makes the knowing filing of any false claim a criminal act. This is true for Medicare as well as Medicaid patients. A like provision applies to CHAMPUS patients. Also see 18 USC §1001, false statements or entries generally.

If the practitioner uses the mail to submit the erroneous claims, then he/she has also committed "mail fraud," 18 USC §1341. A conviction for Medicare or Medicaid fraud carries a mandatory five year exclusion from participation in either program. 42 USC 1320 a-7(a). This means that if a single false claim is charged and the physician is convicted or pleads guilty, he/she will be suspended from provider status for a minimum of five years. This suspension applies to all government programs. The "domino effect" of a finding of fraud is discussed further below.

The final focus of the Medicare/Medicaid criminal provisions is the Anti-Kickback statute. 42 USC §1320(a)-7(a) and (b) make it a crime to solicit, offer, receive or pay "any remuneration," directly or indirectly, in return for referring patients for services covered by Medicare or Medicaid. In April 1993, the South Carolina General Assembly passed a similar statute which prohibits referrals to any facility in which the physician has an interest. See S.466.

In the civil arena the federal False Claims Act (31 USC §3729 et seq.) applies. Civilly, a defendant can be sued not just for intentional fraud, but also for deliberate ignorance or reckless disregard of the truth. Physicians cannot escape liability by asserting that their billing staff or some third party "handled it for me." Moreover, the liability is staggering. The penalties are three times the amount of the claim plus mandatory penalties of $5000-$10,000 per claim, 31 USC §3279(a). (For those who voluntarily turn themselves in the damage can be reduced to only double the amount of the claim.)

Furthermore, the effort in Congress has not stopped. Senator Joe Biden is sponsoring a bill that would impose a life sentence on the practitioner when the fraud results in a patient's death.

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A few examples of recent prosecutions may illustrate just how close to home this lightening strikes. In *U.S. v. Sidiqi*, 959 F.2d 1167 (2d Cir. 1992) an oncologist was convicted of filing false claims for administration of chemotherapy to patients while he was out of the country. The doctor defended himself, asserting that another doctor was present and was "covering" for him. This defense failed.

In *U.S. v. Hooshmand*, (1991) a urologist was convicted of "upcoding" office visits and billing them as consultations. The total "false billings" were $3101.24. The doctor was convicted and sentenced to 18 months in prison, five years probation, 5000 hours community service, and a $250,000 fine.

In *U.S. v. Romano*, (1992) a group of physicians was convicted of violations of the anti-kickback provisions because they received commissions for lab tests done and prescriptions filled by the laboratory and pharmacy located in the building in which the doctors office was also located. The sentence was 12 to 15 months imprisonment, $250,000 restitution and a $50,000 fine.

In *U.S. v. Walton*, (1992) a cardiac pacemaker salesman was convicted of offering to doctors "kickbacks" consisting of football tickets, educational materials, medical equipment, rebates and even female escorts! 3 BNA Medicare Report 852.

Also, in *U.S. v. Gaeber*, (1985) a cardiologist was convicted of violating the anti-kickback provision for paying interpretation or reading fees to physicians who referred patients to his company for diagnostic tests.

An investigation is currently underway of a group of nephrologists who refer patients for lithotripsy therapy to a clinic in which they have an ownership interest in the stone blasting machine.

WHAT TO DO?

To avoid being investigated or prosecuted, start by following these basic rules:

Rule One

Document what you do.
Only charge what you document.
If you didn't document it, you didn't do it.

Rule Two

Conduct no business with any medical provider with whom you also have a financial or joint ownership interest.

Each prudent provider should also establish written guidelines for billing and have the medical charts reviewed to check for proper documentation. Be sure you understand the CPT-4 billing codes and use the appropriate ones. Finally, adopt an internal audit/compliance program to identify and correct billing errors and keep written records of all contact with the fiscal intermediary.

ARE YOU AT RISK?

The DOJ is actively searching for certain targeted conduct to prosecute. This includes:

A. Double billing between doctor groups and hospital;
Ex."Supervision" of anesthesia machine in cardiac surgery;
B. Billing wrong name, wrong date, wrong patient;
C. Referral agreements between home health care groups, doctors, and/or pharmacies;
D. Over billing allowed amounts;
E. Physicians ordering procedures and/or tests the results of which they cannot interpret;
F. Nursing homes with equipment not being used for a patient and/or equipment which the nursing home personnel do not know how to use;
G. Any financial ties with a lab, DME, home services, pharmacy, or supplier;
H. Physicians who lease employees or services but bill for their services as corporate employees;
I. Physicians billing for services actually performed by others such as surgical assistants, residents, nurse practitioners or others;

J. Medically unnecessary procedures being routinely performed.

Most importantly, do not alter the records. The Department of Justice contends that 35 to 45 percent of all physician records subpoenaed to the grand jury have been altered. The worst thing a physician can do is alter or add to a medical record in response to a subpoena. It will almost certainly guarantee that the physician will be indicted and prosecuted and will add additional charges of obstruction of justice. Rest assured that one of the first things a criminal investigator checks is the authenticity of the records.

Be smart. Don't give the investigators anything with which to work.

THE DOMINO EFFECT

If a practitioner is charged with fraud, either civilly or criminally, and such a finding is made by way of verdict, order or agreement, the finding will most likely reach every agency that regulates the practitioner.

For example, a guilty plea to one count of Medicare fraud will be sent to the DEA, HCFA, CHAMPUS, the Bureau of Drug Control at DHEC and the State Board of Medical Examiners. Each agency will in turn take administrative action against the practitioner to suspend or revoke his or her license and/or possibly impose fines. The government can also cause the defendant practitioner to forfeit assets.

OTHER HEIGHTENED SCRUTINY

Our legal system is witnessing the criminalization of physicians. Hundreds of agents and prosecutors have fanned out across the country to prosecute both fraud and anti-trust violations. They are raising the stakes for health care practitioners by charging violations of mail or wire fraud, as well as violations of the money laundering statutes. Each of these result in increasing the potential prison terms or fines under the Federal Sentencing Guidelines.

The only good news for doctors is that most potential jurors still view doctors as having a halo of integrity. Even so, the cost and trauma of going through a prosecution should be enough to motivate the practitioner to review the billing policies and procedures now and iron out the wrinkles. An ounce of prevention is worth a pound of cure. ❐

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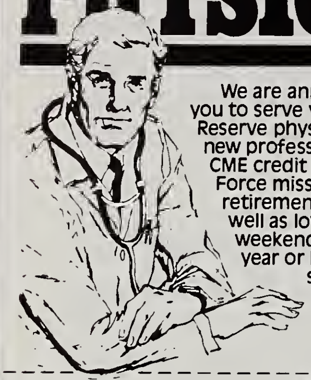

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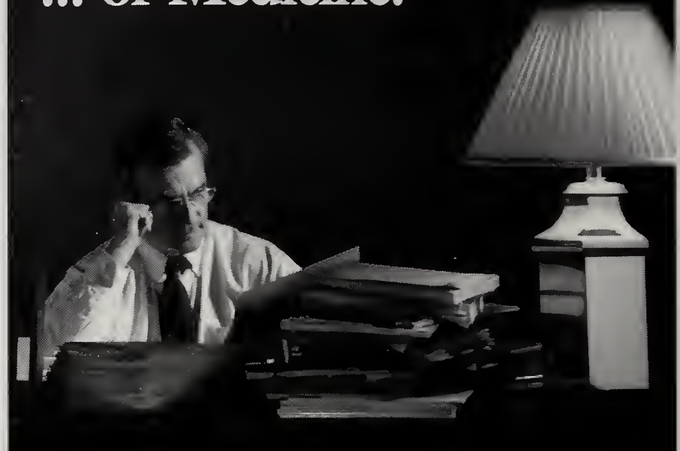

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Editorials

THE ROCK

Euta Colvin has devoted his life and work to the care of patients as a surgeon in South Carolina, and his contribution to medicine in South Carolina has been and is monumental. It has been said that "Anyone who needs a monument does not deserve one." The Residents at Spartanburg Regional call him "The Rock." He has always been there for them, and in a sense he has always been there for medicine in South Carolina. He does not need a monument, but he deserves recognition for his devotion to medicine in our state now while he is active and continuing to contribute.

Euta served on the SCMA Council for 10 years, with two terms as chairman. He served as the 118th president of the SCMA, secretary-treasurer and president of the South Carolina Surgical Society, president of the South Carolina Chapter of the American College of Surgeons, govenor to the American College of Surgeons for six years, chief of surgery at Spartanburg Regional Medical Center for many years, working with residents, president of the Spartanburg County Medical Society, and on the Board of Directors of the South Carolina Medical Care Foundation and the South Carolina Institute for Medical Education and Research.

Euta's dedication to us after all his previous service continued in the area of professional liability and risk management. Beginning in 1983, he has really been a guiding light and leader as chairman and as a member of the Professional Liability Committee until 1991, and chairman of the Risk Management Committee from 1984 to the present time. During these years, we have experienced several reductions in malpractice premiums. These reductions have been directly related to the work of the Risk Management Committee and the JUA. His repeated encouragement was to "Accentuate the positive and eliminate the negative."

Behind every great leader there is usually one who supports and inspires. For Euta there has always been his Dorothy. She has B.Mus. and M.Mus. degrees from Converse College, and she has taught music at Converse and Ashley Hall. She is a beautiful lady inside and out.

Thank you, Euta, for all you have done for and meant to the physicians practicing in South Carolina.

William J. Goudelock, M. D.
509 Asbury CL
Easley, SC29640

Guest editorials reflect the opinions of the authors and do not necessarily reflect the opinions of the Editorial Board or the leadership of the SCMA.

THE CHANGING IMAGE OF PEER REVIEW AS RELATES TO THE PHYSICIAN

The Fourth Scope of Work was originally scheduled for implementation for Carolina Medical Review in October of 1993. In a surprise move, the Health Care Financing Administration (HCFA) by Directed Change Order began some of the features of the Fouth Scope of Work in April and May of 1993.

While there are many changes in the review process, under the Fourth Scope of Work, it should be emphasized that this is not a complete retooling of Medicare Peer Review. Carolina Medical Review (CMR) will continue to do individual case review of charts selected for review by the central office of HCFA in Baltimore, Md. The physicians will continue to receive letters regarding the appropriateness of admission and/or quality of care concerns on individual cases. The percentage of cases to be reviewed will be reduced substantially and emphasis is being shifted to outcome, analysis, and feedback.

As before, the charts, after receipt from the hospitals, are first reviewed by non-physician reviewers. This Review Specialist (RS) must screen the chart for potential Utilization, DRG, and Quality problems, and,if any of these are found, he/she must then refer the chart for review by a CMR Physician Consultant (PC). These PCs are all physicians licensed in S.C., practicing in S.C. and, for the most part, board certified.

Here the changes in the review process begin to become evident. After review by a single P., the physician and the hospital will receive an initial letter, if there is a potential problem. They will be urged to collaborate on a combined reply. It will also be noted that there will be no severity level assigned, no points will be assessed, and that re-review is available on request. Quality variations will be cited only in those instances where there is a significant potential for actual adverse effect. Variations with no potential for adverse effect or minimal potential for adverse effect are no longer to be considered quality problems. An effort will be made to make quality inquiries less confrontational.

Should a quality concern be confirmed, no intensified review will be forthcoming; however, the data gathered will be analyzed, and CMR will participate in local and national cooperative projects that will call for focused reviews. Examples of these are the Medicare Hospital Information Project (MHIP) and the Cooperative Cardiovascular Project (CCP). The difference is that, generally, a focused review calls for review of the chart with only the specific quality concern in mind; whereas, an intensified review had called for a review of the entire chart.

Review results data, as well as data available from all other sources, will be analyzed with the objective of identifying significant variations in care and, with the approval of the Health Care Financing Administration (HCFA), CMR may develop projects to target these variations. If CMR identifies a pattern of quality concern for an individual physician, the PRO (Peer Review Organization) will work cooperatively to improve this pattern with both the physician and the hospital. If the hospital does not wish to participate, CMR will recommend other educational activities for the physician.

CMR will send notices of final determination on potential quality concerns to physicians and providers in all cases, whether the determination is negative or positive.

The Fourth Scope plan is formulated on the assumption that only by working directly and positively with the medical community can the PRO improve aspects of the medical care delivery system. As the new program developes, CMR will make a concerted effort to keep you informed. We solicit your support.

John W. Rheney, Jr., M. D.
279 Livingston Terrace
Orangeburg, SC 29115

LACRIMAE RERUM

Sunt lacrimae rerum
et mentem mortalia tangunt.[1]

My high school Latin teacher said it couldn't be translated, but she made us try anyway. Taken word for word, it says "(There) are tears (about) 'things,' and mind 'mortal' (things) touch." Miss Wiggins would give that an F. After all, this is Vergil, from the *Aeneid*, the highest of poetic heights, at least that year, in Miss Wiggins' class.

Just recently, I was at a meeting in Columbia, when Dr. Nora K. Bell of the USC Center for Bioethics announced that she is leaving South Carolina for Texas, where she will be Dean of Arts and Humanities at North Texas State, at Denton. It was only on the drive home that the news began to sink in, and its greater significance for the future of bioethics awareness in this state. *Lacrimae rerum,* not for Nora, but for those of us who stay behind.

The past decade or so has seen a remalkable expansion of dilemmas in health care and national health policy which demand deep, protracted, and sensitive inquiry. Thus, the field of bioethics, and the closely related concems about the place of the humanities in medical education and practice, have become increasingly important. Durillg that period, for many South Carolinians involved in health care, "Dr. Bell" has been the name synomymous with bioethics.

Those from Columbia can better discuss her significant impact on medical ethics teaching in the university. I have known her for her travel statewide to symposia and fora (She likes Latin too, and would insist on the correct plurals), and for her consultations when we were forming a local medical ethics committee.

Potentially, the most significant of her contributions was the new Center for Bioethics. Through its group of faculty associates, those from throughout the state who are interested in bioethics studies would have had closer contact with faculty from the Columbia campus. That held great promise for collaboration in research, and for strengthening bioethics communication, education and awareness statewide.

Dr. Bell has a deep sense that philosophy is not merely academic exercise, but is pursued to help the living of ordinary life. Alas, in these "bottom line" times, a high university official reportedly declared that bioethics is "not a priority" for the university at this time. Lacrimae rerum, not for Nora, but for those of us who stay behind.

Vergil's context was certainly not bioethics, but as with all great poetry, the challenge is not to say exactly what the poet meant, but to find its meaning for our own life situation. *Mortalia* has little to do with death and dying, and much indeed to do with the depth of human concern and feelings with which reason ("mind") must be in touch in daily life and practice.

Dr. Bell exemplifies that blend of qualities, and now Texas will benefit, as have we. We wish her well. For ourselves, we wish that we might, in these troubled times, renew our commitments to humane society and restore to high priority the quest for ethical understanding, individually and in our institutions. Dr. Bell certainly would approve. Somehow I think Miss Wiggins would too, and maybe, just maybe, they both would give this a passing grade:

The flood of human feeling
touching mind
flows forth as tears.

C. D. Bessinger, Jr., M. D.
10 Enterprise Boulevard
Suite 107
Greenville, SC 29615

REFERENCE

1. Vergil. *Aeneid*, I:462.

On the Cover:

ROBERT SPANN CATHCART: 1871-1949
PRESIDENT, SCMA 1926

Robert Spann Cathcart was born and received his early education in Columbia. He graduated in 1890 from the School of Pharmacy of the University of South Carolina. In 1893 he received his M. D. from the Medical College of the State of South Carolina and opened his practice of general medicine in Charleston. So successful was he that after three years, he won by a landslide a contest sponsored by the newspaper to choose the most poplar physician in Charleston. His prize was a buggy. He later purchased one of the first automobiles in Charleston. After breaking an arm cranking it, he designed a starter and applied for a patent, but there is no evidence that the application was successful.

In 1907, Dr. Cathcart limited his practice to surgery and soon became known as "the Dean of Charleston Surgeons." He served on the faculty of the Medical College for 36 years; as Chief Surgeon at Roper for 30 years; and as surgeon to the Citadel cadets for 42 years. He is credited as being the prime mover in the rebuilding of Roper Hospital in 1905.

During WWI Dr. Cathcart served as medical aide to Governor Manning and in this position organized the medical personnel of the state. He was one of the founders of the American College of Surgeons and for many years served on its Board of Governors.

Dr. Cathcart was active in many civic as well as professional organizations. He served as president of South Carolina Medical Association, Southern Surgeons' Association, and the Tri-State Medical Association.

He died of cancer April 29, 1939.

> It was a life of service that Robert Cathcart lived. It was a life that blessed Charleston, its people and its institutions. In his departing all of us sorrow; and all of us rejoice that we knew him.

Betty Newsom
The Waring Historical Library

President's Page

THE FALSE CLAIMS ACT

It has been said that fraudulent charges and overcharges are a significant component of health care expenses. Parallels have been constructed between the health care system and the defense industry. It should be of interest to note that a relatively new mechanism is being utilized against health care providers in this arena.

The False Claims Act, as liberalized in 1986, permits a private party to file suit on behalf of the United States against anyone who has made false claims with the government. Federal officials have the option of taking over the cases, but "whistle blowers" are entitled to 15 to 30 percent of any recovery, plus attorneys' fees.

Recently, as reported in the *Wall Street Journal*, the Justice Department won a $400,000 settlement against a California neurologist who allegedly overbilled Medicare for diagnostic tests. The public interest group that alerted the government to the problem earned a $36,000 bounty. Christopher Dowden received $15 million for tipping off the government in 1990 to questionable practices at National Health Laboratories, Inc., the medical reference lab that paid $111 million dollars to the U. S. last year to settle the Medicare fraud case. Blue Cross and Blue Shield of Florida, Inc. recently agreed to pay $10 million dollars to settle allegations that the company mishandled and caused massive backlogs in the processing of Medicare claims. The case was launched by a former Blue Cross and Blue Shield analyst, who now stands to receive as much as $1.5 million dollars for her involvement.

As mentioned in the May SCMA Newsletter, the AMA and FBI are working together in an effort to address health care fraud. The AMA has installed a special toll free number for this purpose and FBI agents are available to speak at medical meetings.

No provider has been exempt from these allegations and it is important to note that suits have been initiated both by and against physicians. It appears as if this tool has the potential to focus upon certain aspects of fraud within the health care system. It will be interesting to follow developments in this area over the next several years.

E W Catalano MD

Edward W. Catalano, M. D.
President

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Contents

Special Issue: Current Issues in Psychiatry, Part 1

Guest Editor: Robert N. Milling, M. D.

463 Introduction
Robert N. Milling, M. D.

465 Community Psychiatry in South Carolina: Current Status and Future Directions
Larry R. Faulkner, M. D., Alberto B. Santos, M. D.

475 Trends in Public Psychiatric Inpatient Care in a General Hospital
Laura J. Rames, M. D., Steve McLeod-Bryant, M. D., Sidney G. Alston, M. D., Alberto B. Santos, M. D.

485 Mobile Crisis: Comprehensive Emergency Psychiatry for the Future
Joseph J. Zealberg, M. D., Alberto B. Santos, M. D.

490 Treatment and Research Issues: Bipolar Affective Disorder and Substance Abuse
Kathleen T. Brady, M. D., Ph. D., Susan Sonne, Pharm. D., R. Bruce Lydiard, Ph. D., M. D.

Editorials

494 Building a Community-based System of Mental Health Services
Joseph J. Bevilacqua, Ph. D.

Features

503 Alliance Page
498 Letters to the Editor
499 On The Cover
461 President's Page

Association

501 Gray Matter
481 SCMA Newsletter

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The Journal
OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89 OCTOBER 1993 NUMBER 10

SPECIAL ISSUE: CURRENT ISSUES IN PSYCHIATRY PART 1: INTRODUCTION

GUEST EDITOR: ROBERT N. MILLING, M. D.*

Psychiatry in South Carolina is on the move. This symposium issue of *The Journal* is one of two on psychiatry in the next 12 months, and there will be other articles relating to psychiatry interspersed with the other articles in upcoming issues.

Dr. James Ballenger's thoughtful letter to the editor illustrates historically the progress psychiatry has made in recent years, especially in South Carolina. Dr. Ballenger is the internationally renowned Chairman of the Department of Psychiatry at MUSC and Director of MUSC's Institute of Psychiatry.

Dr. Joseph Bevilacqua, the Director of the South Carolina Department of Mental Health, in a guest editorial describes the department's emphasis on moving the care of the mentally to the community in which the patient lives.

Dr. Larry Faulkner, Chairman of the Department of Neuropsychiatry and Behavioral Science at the USC School of Medicine and Director of William S. Hall Psychiatric Institute, provides a forward looking article on the current status and future needs of psychiatric manpower in South Carolina's community mental health centers, and presents a strategic approach to meeting those needs that is consistent with the vision of the Public Academic Consortium.

In keeping with the emphasis on future directions for psychiatry in this issue, is the article by Dr. Laura Rames and co-authors that discusses the advantages of increasing operational efficiency in a public psychiatry inpatient unit demonstrated through a public academic collaborative project in Charleston. These strategies represent national trends and include streamlining of systems processes. The service model described provides cost effective public mental health inpatient care in local communities with general hospitals.

The emergency psychiatry/mobile crisis program developed by Dr. Joseph Zealberg and others describes an effort to improve access to emergency psychiatric care in Charleston. This model contains a minimum of overhead costs, prevention of law enforcement involvement and escalation of agitated behavior.

Dr. Kathleen Brady and co-workers point out in a very interesting article that substance use disorders, especially cocaine dependency and alcoholism, are far more common in patients with bipolar disorder (manic-depressive illness) than in the general population. Epidemiologic data show bipolar affective patients are most likely to be associated with some form of substance abuse or dependence. In the study, bipolar patients with substance abuse are shown to have more frequent and destructive episodes of illness. Diagnosing bipolar affective disorder in patients with comorbid substance abuse can be difficult because chronic use can mimic mood instability. Issues concerning the diagnosis and treatment of this very difficult patient population are discussed in the article.

---

*William H. Hall Psychiatric Institute, PO Box 202, Columbia, SC 29202.

Future articles in *The Journal* will include articles on post-partum emotional illness, management of acute psychiatric disorders in elderly demented patients, community treatment for patients with chronic psychoses, child and adolescent inpatient psychiatric treatment, rural mental health services initiatives, developments in ECT, HIV positive patients in the South Carolina Department of Mental Health, and treating patients with mental illness and chemical dependency as outpatients. ❒

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COMMUNITY PSYCHIATRY IN SOUTH CAROLINA: CURRENT STATUS AND FUTURE DIRECTIONS*

LARRY R. FAULKNER, M. D.*
ALBERTO B. SANTOS, M. D.

The role of psychiatrists in community mental health centers (CMHCs) has been the subject of considerable discussion and controversy for the last three decades.[1] Most authorities agree that there are too few psychiatrists working in CMHCs and attribute this problem to such factors as inadequate pay, unequal insurance reimbursement for the treatment of patients with mental illness, declining leadership roles, excessive case loads, limited administrative influence, and restricted professional duties.[2-4] Through the years a number of attempts have been made to address this psychiatric manpower problem by the development of special public-academic liaisons between state mental health systems and academic departments of psychiatry.[5-7] One of the major rationales underlying this approach has been the belief that these administrative relationships would have a positive effect upon the recruitment of psychiatrists for CMHCs. It was hoped that providing quality educational experiences for psychiatric residents in CMHCs would make it more likely that they would consider future employment in CMHCs. There is some evidence to indicate that this has indeed occurred in some states, including South Carolina.[8-10] At the same time, however, it has been noted that psychiatric manpower in CMHCs is a complex, multifaceted issue that depends not only on efforts to increase recruitment of psychiatrists but also on strategies to retain those who have been recruited.[11] It makes little sense to attempt to recruit quality psychiatrists for CMHCs if their jobs are so intolerable or unrewarding that they refuse to stay in them for any reasonable period of time.

The South Carolina Department of Mental Health is in a period of significant transition as it attempts to refocus a mental health system that traditionally has relied on large, centrally located institutions to one with more emphasis on local, community based services.[12] Called "Toward Local Care" (TLC), the success of this transition will depend upon the ability of South Carolina's community mental health centers (SC-CMHCs) to meet the needs of patients in the community without undue reliance on central hospitalization. Since many of these patients are seriously, acutely, and chronically mentally ill and require psychiatric evaluation and treatment, it seems clear that the success of TLC will depend to a significant degree upon the ability of SC-CMHCs to recruit and retain quality psychiatrists. It will probably also depend upon the willingness of local general hospitals to provide acute inpatient services to patients with mental illness.

The South Carolina Department of Mental Health has recognized the special importance of public-academic linkages to improving the quantity and quality of psychiatric manpower for its programs. The South Carolina Public-Academic Consortium (PAC) was created in 1990 as a means of increasing the collaborative efforts between the academic institutions in South Carolina and the Department of Mental Health programs.[13] The mission of the PAC is to foster collaboration between public

---

*From the Department of Neuropsychiatry and Behavioral Science, USC School of Medicine; the William S. Hall Psychiatric Institute (Dr. Faulkner); and the Department of Psychiatry and Behavioral Sciences, MUSC College of Medicine (Dr. Santos).
**Address correspondence to Dr. Faulkner at the USC School of Medicine, Department of Neuropsychiatry and Behavioral Science, Columbia, SC 29208.

mental health programs and academic institutions in order to: (1) prepare graduates who possess the knowledge, skills, and attitudes needed to be effective mental health workers in South Carolina's public mental health system; (2) develop a work experience in South Carolina's public mental health system that is valued by employees as challenging and satisfying; (3) promote research by faculty and graduate students that is utilized to improve public mental health services in South Carolina and nationally; and (4) provide educational experiences needed by current workers for continued effectiveness in South Carolina's evolving public mental health system.[13]

This paper is an attempt to understand the current status and future needs of psychiatric manpower in SC-CMHCs and to present a strategic approach to meeting those needs that is consistent with the vision of the PAC. The data to be presented were obtained from a survey of SC-CMHC directors in late 1991. As background information, we will present a brief overview of South Carolina's public mental health system. We will then describe the method and present the major implications of the data obtained, and we will conclude by proposing several collaborative public-academic recruitment and retention strategies that we believe might well have a positive impact upon psychiatric manpower in SC-CMHCs.

SOUTH CAROLINA'S PUBLIC MENTAL HEALTH SYSTEM

At the time of this study, South Carolina's public mental health system consisted of nine inpatient facilities and 17 CMHCs. The 1991 State Plan for the Department of Mental Health reveals that total expenditures for fiscal year 1991 were about $169 million for psychiatric services, with $102 million (60%) for inpatient institutions and $67 million (40%) for CMHCs.[14] For comparison, in fiscal year 1987, total expenditures for psychiatric services were about $149 million, with $113 million (76%) for inpatient institutions and $36 million (24%) for CMHCs. These data provide evidence to support the Department of Mental Health's planned shift in emphasis toward the provision of services to patients in the community.

During calendar year 1990, the CMHCs provided in excess of 600,000 hours of total clinical service at an average cost of $80 per hour.[14] About 400,000 of these hours were provided to patients who were designated as "seriously mentally ill," including about 100,000 hours to patients for psychiatric assessments and the administration and monitoring of medications. During fiscal year 1991, there were over 7500 psychiatric admissions and almost 3000 substance abuse admissions to South Carolina's state inpatient facilities.[14] Over 925,000 days of inpatient care were provided in these facilities at an average cost of about $170 per day.[14]

METHOD

In late 1991, a survey was sent by the senior author to the directors of South Carolina's 17 CMHCs. The directors were requested to provide data pertaining to: (1) the current physician manpower in their CMHC; (2) their current need for additional psychiatrists without regard to funding availability; (3) their current need for additional psychiatrists for whom funds were available in their current budget; (4) the number of physicians they expected to lose over the next five years due to retirement, relocation, etc.; (5) the number of additional psychiatrists they expected to need over the next five years to accommodate desired program expansion; and (6) the number of physician positions they expected to eliminate from their budgets over the next five years because of program discontinuation or down-sizing. SC-CMHC directors who had not responded to the survey within four weeks were contacted by phone to obtain the requested data.

RESULTS

Twelve SC-CMHC directors returned the completed surveys and five were contacted by phone so that data were obtained from all 17 (100%) directors.

TABLE 1
CURRENT STATUS OF PSYCHIATRIC MANPOWER IN SOUTH CAROLINA'S COMMUNITY MENTAL HEALTH CENTERS (N=17)

	FTE*	$\bar{X}$	%
Current Manpower			
Available Positions	68.5	4.0	100
Physicians Employed	57.5	3.4	84
Psychiatrists	47.6	2.8	83
Board Certified Psychiatrists	24.9	1.5	52
Current Vacancies	11.0	0.6	16
Manpower Needs			
Total Psychiatric Need	39.8	2.3	100
Fundable Psychiatric Need (Current Vacancies)	11.0	0.6	28

*FTE - full-time equivalent positions

Table 1 presents data reflecting the current status of psychiatric manpower in SC-CMHCs. While most of the physicians employed by SC-CMHCs are psychiatrists, only about half are board certified. SC-CMHC directors report that they need almost 40 more psychiatrists to meet current needs, and that they have the resources to hire 11 additional psychiatrists if they could recruit them. Stated differently, the SC-CMHC directors report that resources are available to fund less than one-third of the additional psychiatrists they desire.

Table 2 presents data pertaining to the future trends in psychiatric manpower in SC-CMHCs. Directors expect to lose about 22 of their current psychiatrists over the next five years. To accommodate the program expansion desired by SC-CMHC directors would require an additional 48 psychiatrists. No SC-CMHC director expects to have a decreased need for psychiatrists in the future. Therefore, a liberal estimate suggests that about 81 new psychiatrists could be employed by SC-CMHCs over the next five years. If no new revenue became available, however, a conservative estimate of the number of new psychiatrists needed over the next five years is about 33.

DISCUSSION

There are several points that seem clear from an examination of the above data. First, a significant shortage of psychiatrists currently exists in SC-CMHCs. This information is not only evident from the information obtained

TABLE 2
FUTURE TRENDS IN PSYCHIATRIC MANPOWER IN SOUTH CAROLINA'S COMMUNITY MENTAL HEALTH CENTERS (N=17)

	FTE*	$\bar{X}$	%
Current Physicians	57.5	3.4	100
Current Vacancies	11.0	0.6	19
Expected Loss – 5 years	22.3	1.3	39
Expansion Needs – 5 years	48.0	2.8	83
Downsizing Reductions – 5 years	0.0	0.0	0
Total Needs – 5 years (Loss + Vacancies + Expansion-Reductions)	81.3	4.8	100
Fundable Needs 5 Years (Loss + Vacancies)	33.3	2.0	41

*FTE = full-time equivalent positions

from SC-CMHC directors (Table 1), but can also be inferred from a close examination of State Plan data.[14] If 57.5 physicians are currently employed in SC-CMHCs and they perform about 100,000 hours of psychiatric assessments and the supervision of medication administration and monitoring, this means that each physician spends about 33.5 hours per week just in these activities. There are clearly other duties in SC-CMHCs that psychiatrists perform, and our calculations do not consider time off for vacation, illness, educational leave, etc. While it is also true that some of the medication administration and monitoring duties in SC-CMHCs are performed by non-physicians, it seems apparent that the State Plan data support the SC-CMHC directors' contention that they need more psychiatric manpower.

Second, the need for psychiatrists in SC-CMHCs will be even greater in the future than it is today. Again, this prediction comes not just from the data obtained from SC-CMHC directors (Table 2), but also from a close examination of the State Plan data[14] and the goals of the TLC process.[12] In order for the TLC process to be successful, large numbers of admissions to state inpatient facilities will need to be prevented and total days of inpatient care will need to be greatly reduced. What this ultimately means is that SC-CMHC programs of the future will need to be directed even more than they are now to the seriously, acutely, and chronically mentally ill. This, in turn, will mandate greater need for psychiatric manpower in SC-CMHCs. This is especially true if part of the TLC process involves an expansion of acute inpatient services in local general hospitals Obviously, much more than just psychiatrists will be necessary to adequately serve these difficult patients in the community, but without quality psychiatric input it is unlikely that TLC will be as successful as it could be.

In the present fiscal and political climate in South Carolina, the additional state funds required to support an expansion of SC-CMHC programs will most likely have to come from a shift in resources from inpatient institutions, making it all the more important that SC-CMHCs focus on providing increased services to seriously ill patients. The presence of more psychiatrists in SC-CMHCs could actually help these programs address their budget requirements, since much of the psychiatric manpower costs can be offset through careful billing of federal entitlement programs such as Medicaid. Similarly, the provision of acute inpatient services in local general hospitals could make even more state funds available for SC-CMHCs. Psychiatric hospitalization for adults under 65 in Department of Mental Health institutions is not reimbursable under Medicaid and must be paid for with state revenues. However, acute psychiatric services provided for adults in local general hospitals are reimbursable under Medicaid. Expanding acute inpatient services in the local general hospitals in several of the larger communities in South Carolina could have a major impact on the Department of Mental Health budget, enabling significant shifting of state revenue from inpatient institutions into SC-CMHC programs.

Third, it is apparent that many psychiatrists currently working in SC-CMHCs need extra nurturance and support. This is evident from the fact that only about 40 percent of the SC-CMHC physicians are board certified psychiatrists. It is also suggested by the workload data indicating that the work environment for psychiatrists in SC-CMHCs is one of pressure and stress. These two factors may indeed be related. The lack of board certification usually indicates that a psychiatrist is young or needs extra help in attaining that status. In either case, such an individual could benefit from continuing education as well as supportive strategies to manage a difficult, stressful job and to prevent "burn-out." The low certification rate for SC-CMHC psychiatrists may well indicate that many young, talented psychiatrists are not retained by SC-CMHCs for long after they become board certified.

We believe these issues pertaining to psychiatric manpower in SC-CMHCs make it imperative that a strategic, multidimensional public-academic plan be developed that focuses on both recruitment and retention initiatives. We endorse the vision of South Carolina's Public-Academic Consortium.[13] We also believe the key to successful, long-term psychiatric recruitment and retention efforts hinges upon the expansion of existing linkages between SC-CMHCs and the academic psychiatric education programs at the University of South Carolina Department of Neuropsychiatry and Behavioral Science/William S. Hall Psychiatric Institute (USC) and the Medical University of South Carolina Department of Psychiatry and Behavioral Sciences (MUSC). Both of these academic programs have a demonstrated commitment to educational, clinical service, research, and administrative activities in the public mental health sector and with SC-CMHCs in particular. [9,10,15-24] The challenge for the future will be to build upon this foundation of rapport in a carefully planned and executed fashion to meet the needs of public programs and also fulfill academic requirements. At first glance, this might seem to be a difficult task. Yet a closer examination of the requirements of academic psychiatry and public mental health programs reveals considerable compatibility.[8] Academic departments require salaries for faculty and trainees; clinical programs for teaching and research; trainee education; and opportunities for faculty to become involved in teaching, research, administration, and community service. Public mental health programs such as CMHCs need psychiatric manpower; clinical service to patients; stimulating contact with trainees; education for their own trainees and staff; studies of program effectiveness and cost-benefit; solutions to administrative problems in clinical and support programs; and professional involvement in committees, task forces, and advisory boards. Carefully crafted relationships between academic psychiatry departments and public mental health programs like CMHCs can indeed advance the agendas of both organizations.

We believe that an expanded academic psychiatry – CMHC relationship in South Carolina should include at least the following components:

(1) a judicious and carefully designed expansion of required and elective psychiatric resident training experiences in SC-CMHCs;
(2) the further development of advanced training programs in community psychiatry for PGY-5 and PGY-6 psychiatric residents at USC and MUSC;
(3) the development by USC and MUSC of focused continuing education seminars (in collaboration with the South Carolina Psychiatric Association) and mini-sabbatical training experiences (in collaboration with the South Carolina Department of Mental Health) for psychiatrists working in SC-CMHCs;
(4) administrative consultation to the Department of Mental Health by faculty from USC and MUSC concerning the development of psychiatric manpower standards for SC-CMHCs;
(5) expanded research efforts by USC and MUSC psychiatric faculty in clinical and mental health systems issues pertinent and important to SC-CMHCs;
(6) the joint recruitment and employment of full-time psychiatrists by SC-CMHCs, local general hospitals, and the academic departments of psychiatry at USC and MUSC;
(7) collaborative lobbying efforts by the Department of Mental Health, the South Carolina Psychiatric Association, and the academic departments of psychiatry at USC and MUSC to expand insurance coverage for patients with serious mental illnesses; and
(8) the experimentation by USC and MUSC in the use of new video communications technology to provide direct services, consultation, and continuing education to SC-CMHCs experiencing greatest difficulty in recruiting psychiatrists.

These recommendations would not be prohibitively expensive nor would they be particularly difficult to implement. However, they would require sustained commitment on the part of the leadership of the Department of Mental Health, the SC-CMHCs, and the academic departments of psychiatry at USC and MUSC. We believe these recommendations would address major issues pertaining to psychiatric recruitment and retention in SC-CMHCs in a positive, constructive fashion by employing state of the art techniques for public-academic education, clinical service, research, and administrative relationships. In turn, these recommendations could go a long way toward helping to ensure that the TLC process in South Carolina is a successful endeavor. ❐

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TRENDS IN PUBLIC PSYCHIATRIC INPATIENT CARE IN A GENERAL HOSPITAL

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Increasing attention has focused on the scientific evaluation of health care services in the interest of improving utilization of resources and making medical care more cost-effective.[1,2] The field of mental health services research is fraught with economic and political complications that can hamper its progress. Nevertheless, new approaches to psychiatric inpatient care are urgently needed, particularly in the public sector, where deinstitutionalization has created a need to redefine the role of the hospital within a spectrum of community-based services.

In this paper we describe a general hospital psychiatric inpatient service that is part of a public, community-based system of care in Charleston, South Carolina, and present (1) strategies that can lead to efficient operation of similar public units in other general hospitals, and (2) data on the service's effectiveness.

PUBLIC MENTAL HEALTH CARE IN SOUTH CAROLINA

Traditionally, South Carolina's public mental health system provided inpatient treatment for patients from the Charleston area primarily in centralized state hospitals in Columbia, 100 miles away from Charleston. In 1985, a contractual agreement between the State Department of Mental Health, the Charleston Area Mental Health Center, and the Medical University of South Carolina department of psychiatry and behavioral sciences led to the opening of a public inpatient unit at Charleston Memorial Hospital, a county-supported facility.

CHARACTERISTICS OF THE UNIT

The public inpatient unit at Charleston Memorial Hospital is a 15-bed, locked area with five private rooms. Unit operations are designed for rapid patient turnover that maximizes efficient utilization of beds. Shorter hospital lengths of stay have been associated with smaller units based in the community.[3-5]

The unit's primary goal is to reduce the number of admissions to the centralized state hospitals. Because the unit is small, the efficient utilization of beds is ever present in staff's consciousness and is discussed openly with patients. Information about the unit's mission is disseminated broadly to provide referral sources with realistic expectations about the goals of hospitalization on the unit.

CLINICAL FOCUS

The unit can be characterized as a short-term crisis intervention or short-term organic therapeutic service.[6] This designation encourages maximization of bed availability. Principal interventions are rapid stabilization using crisis management and somatic therapies and rapid mobilization of aftercare resources.

Pharmacologic or other interventions are not delayed for scheduled new case presentations or treatment planning conferences. Rather, acute treatment is provided at admission and refined as needed each day. Members of the patient's social support network, including outpatient service providers, are aggressively consulted for information and engaged in discharge planning. Staff evaluate the family's ability to support the patient and educate the family about the patient's illness and treatment if necessary. Analytic therapies are not used.

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Before admission, medical and surgical consultations are arranged for patients who need them, and medical services are planned. The unit accepts patients who require close medical monitoring and intravenous lines. Patients who abuse substances are detoxified on the unit. After stabilization, they are referred to other agencies for rehabilitation.

Staff track information about each patient's course of treatment on a large blackboard located in the staff meeting room. The display includes working diagnoses, reasons for hospitalization, medication dosages and levels, pending laboratory studies, staff assignments, projected discharge date, legal issues, and aftercare arrangements. The blackboard provides a common and practical source of information for all staff, reduces the time staff spend consulting charts, and limits inefficiencies that may result from staff miscommunications.

Particular emphasis is placed on the reasons the patient was hospitalized. For each admission, staff identify the indication for hospitalization and note it on the blackboard. These indications most frequently include suicide or homicide risk, combativeness, dangerousness based on nonfocused agitation, profound psychomotor retardation and inability to care for oneself, severe psychotic thinking, and confused sensorium. Resolution of the specific behavior or condition that precipitated hospitalization serves as a marker of discharge readiness, barring serious complications.

PERSONNEL

The unit's medical staff is composed of university faculty and residents. A senior resident under close supervision from a faculty psychiatrist is responsible for decisions about admission, care, and discharge. Additional personnel include registered nurses and nursing aides, unit clerks, and two aftercare coordinators. The aftercare coordinators are supervised by the hospital's department of social services and are charged with promoting continuity of care and decreasing recidivism. The unit staff's principal identity is that of consultant to outpatient providers. Careful attention is directed toward avoiding countertransference-based behavior and competitive attitudes toward outpatient providers.[7,8] The unit avoids diffusion of staff roles by defining each role using a job description that outlines specific services that incumbent is expected to perform rather than identifying staff by their field of study or special interest. Such role definition aids in the coordination and nonduplication of clinical efforts in treating patients.[9-11] The job descriptions are consistent with the services provided by professional disciplines required by the Joint Commission on Accreditation of Healthcare Organizations.[12] Because skills learned by patients in the hospital are not readily transferable to other settings, the services of rehabilitation specialists may be better utilized outside the hospital, in psychosocial rehabilitation day programs or continuous treatment teams in the community.[13]

BED CONTROL

A single individual coordinates admissions; directs hospital course, including medication trials; and coordinates discharge planning. Having a single person responsible for coordinating these critical aspects of inpatient care reduces the possibility that patient care will be impeded by conflicting interests and increases the likelihood of maximizing utilization of beds.

All requests for admission are directed to the coordinator who clarifies why hospital-based care is necessary. The referring clinician is asked to articulate his expectations for the patient's hospitalization, and a realistic goal for the hospitalization, such as resolution of symptoms or problematic behavior, is established before admission. The coordinator also obtains a commitment from the referring clinician to provide aftercare for the patient.

STAFF AND PATIENT ACTIVITIES

Limiting staff time spent in meetings is critical to efficient inpatient operations. Only one staff meeting routinely occurs each day, and it is structured to maximize coordination of work. Separate meetings for presenting the case of new patients or for treatment planning are not necessary since the daily meeting attends to all such issues.

The daily meeting is structured so that a limited number of persons address a predetermined set of variables for each patient. For example, a nurse may report on the patient's compliance with treatment, the aftercare coordinator may present new information about the patient's financial resources, and the physician may give an update on resolution of the patient's target symptoms. The agenda is displayed on a blackboard in the meeting room for easy reference. Focus is thus maintained on the patient's response to interventions and on coordinating effective aftercare. The presentation of irrelevant historical material are discouraged. Nonproductive stimulation is minimized, and patients are not engaged in provocative individual or group therapeutic activities that are unrelated to crisis management or stabilization. Formal activities therapy is not provided. Leaves of absence or patient passes occur infrequently, and patients and staff have no access to television during the work day.

To allow for expression if issues affecting the entire unit, patients and staff gather each day for a 20 to 30-minute community meeting held immediately after the staff meeting. The community meeting also serves as a forum for educating patients about the nature of treatment and the range of resources outside the hospital. Patients who are about to be discharged are encouraged to reflect on what they have learned about their illness during the admission and on how they might better use community supports to prevent rehospitalization.

SERVICE EVALUATION

To assess the impact of the unit on patterns of care, we collected demographic, clinical, and fiscal data for each patient admitted over a two year period.[14] The need for hospitalization clustered predominantly around unmanageable agitated psychotic states and high risk of suicide. The average length of stay was ten days. At discharge, 80 percent of the patients returned directly to their local residence. The unit's occupancy rate remained about 90 percent, and recidivism to the unit was under five percent. When data from the centralized state hospital system is included, the recidivism to a hospital setting was under 10 percent.

Admissions to the unit during the study period totaled 802. Previously the overwhelming majority of these patients would have been committed involuntarily to central state facilities. In fact, 715 of these admissions, or 89 percent, met state criteria for emergency commitment. However, given the option of treatment locally, 532, or 74 percent, admitted themselves voluntarily. Only 183 of the 715 committable patients, or 26 percent, required emergency involuntary commitment orders to be hospitalized locally.

In South Carolina a hearing is held within 21 days (and usually within 14 days) following an emergency commitment order. However, a facility can request dismissal of an emergency commitment order from a probate court on the grounds that the patient no longer meets criteria for commitment, thereby avoiding the need to remain in the hospital awaiting a hearing. Such a request must be made before the fifth hospital day. When the dismissal or early release is granted, the patient can be discharged but may elect to remain in the hospital on a voluntary basis.

A request for dismissal of the commitment order and early release was made for 104 of the 183 committed patients and was granted for 101 of them, or 55 percent of the total group of committed patients. Therefore only 82 of the 715 Charleston patients who met commitment criteria, or 12 percent, actually required a probate court hearing, given the option of local voluntary admission and the use of requests for dismissal or early release.

During the study period, 544 patients were committed to the state's centralized facilities in Columbia under emergency involuntary orders for lack of an available bed in the local unit. The average length of stay in those facilities for this "overflow" control group was 33.6 days, according to the statistics division of the state mental health department. In contrast, the average length of stay of the 802 patients hospitalized in the local psychiatric unit was ten days. The difference represented significant difference in utilization of patient bed-days for local vs. centralized care.

Interestingly, the staff of the centralized hospital facility (G. Werber Bryan Psychiatric Hospital) visited the unit in Charleston to learn more about our local strategies. They were able to implement the probate court early release option with most but not all of the judges' cooperation. The results were highly significant: Requests for early release rose from an average of around three per month prior to implementation to 125-150 per month. This resulted in a reduction in monthly average length of stay from 35 to 45 days to 13-14 days per patient.

DISCUSSION

The specific role of the psychiatric hospital and the general hospital psychiatric unit in the spectrum of mental health services will continue to be a focus of debate. The public sector appears to have taken a lead in redefining the role of inpatient care within the scope of comprehensive community-based services. In this model, the hospital bed is used primarily for containment and as a backup to other providers. Operational efficiency is an essential goal of this model because limited public resources are available for hospital-based services.

In the inpatient unit we described, specific refinements are numerous programmatic levels were implemented to increase operational efficiency. These refinements included streamlining the number of personnel, structuring discussions of clinical information, and focusing treatment on the behavior that led to the patient's hospitalization rather than on the patient's diagnosis.

When these program characteristics were initially implemented, staff required considerable direction to maintain the clinical focus on resolution of a patient's specific behavior or condition and to adhere to the agenda for staff meetings. Staff who had previously been employed in traditional, inpatient settings had particular difficulty adjusting to this focus, although staff who had previously worked in medical or surgical wards did not experience this difficulty. As staff's understanding of the unit's goals increased and desired patient outcomes were obtained, staff began to perceive the rewards of the system. A majority of patients who met involuntary commitment criteria (74 percent) admitted themselves voluntarily when offered the local hospital, thus reducing expenses associated with the judicial process. The local alternative also resulted in considerable savings in sheriff's department costs associated with the transportation of patients from Charleston to Columbia for emergency commitment, from Columbia to Charleston for judicial hearing on the emergency commitment order, and then back to Columbia if the patient was found to be in continuing need of hospitalization. Furthermore, it was possible to obtain dismissal of commitment orders for more than half of the patients who were involuntarily committed to the local unit.

Coordination of clinical, legal, and social support services is best achieved in a patient's own community.[15] Such care results in more rapid stabilization and return to normal living in familiar surroundings and within a supportive network of available professionals. The cost-effectiveness, convenience, and improvement in quality and continuity of care make local alternatives for psychiatric hospitalization desirable. ❐

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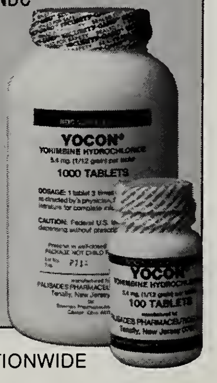

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MOBILE CRISIS: COMPREHENSIVE EMERGENCY PSYCHIATRY FOR THE FUTURE

JOSEPH J. ZEALBERG, M. D.*
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The U.S. has the best hospital care system in the world, but as a nation has only a fair record of providing basic health care. Nearly 60 million Americans have no health insurance during a given year.[1] Our national health policy supports hospital care, not basic health care, and the emphasis is on quality of hospital care rather than access to care.[1] In an effort to improve access to psychiatric care, a mobile psychiatric emergency service was developed in Charleston. By "taking the ER to the patient," this model of care is one that provides accessible, comprehensive care with a minimum of overhead costs. Additionally, it can prevent involvement of the sheriff's department and the escalation of agitated behavior which usually leads to involuntary commitment in South Carolina. This article will describe the program's focus on clinical service and teaching, its collaboration with law enforcement, and its role in disaster preparedness.

DESCRIPTION OF SERVICE

The Emergency Psychiatry/Mobile Crisis Program (MCP) is staffed by an interdisciplinary team of faculty psychiatrists and psychiatric residents from the Medical University of South Carolina (MUSC) and by nurses and master's-level clinicians (i.e., in social work, psychology, counseling) employed by the Charleston/Dorchester Community Mental Health Center (CDCMHC). The team is available 365 days a year, 24 hours a day. The catchment area of Charleston County has a population of approximately 300,000; since 1987, the program has evaluated over 10,000 emergency patients. Approximately one-third of patients seen have chronic psychotic disorders, many of whom are "dually diagnosed." The team responds to psychiatric emergencies occurring anywhere in the Charleston community.

Emergency calls requesting outreach services come from numerous sources within the community, e.g., area emergency rooms (ERs), clinics, police, EMS, the Department of Social Services, probation and parole boards, probate court, families, landlords, health professionals, and individual patients. It is not uncommon for the team to be called to private homes, physicians' offices, shelters for the homeless, motels, malls, public buildings, back yards, or back seats of police cars. Therefore, the entire county of Charleston serves as the team's "office" or "ER."

Calls are carefully screened by clinicians who are expected to employ a highly facilitative "how can I help you" approach from the first moment of telephone contact with a caller. While there is no cumbersome intake or appointment procedure, a series of structured assessment questions are asked before responding to a request for mobile emergency services. Clinicians thus attempt to estimate the level of any potential danger while "trying to defuse" the crisis through telephone assessment.

Police requests for assistance in "life or death" situations are responded to immediately. If a situation is potentially dangerous (for example, if we are called by a suicidal or homicidal person with a loaded gun), team members calm and support the person over the phone but only go to the site with police officers. Otherwise, if there is no security risk, the team will respond alone. Team members work closely with the area's law enforcement agencies and have communication pro-

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tocols with dispatchers. The team always alerts police dispatch of their destination via cellular telephones so that officers can reach them rapidly if needed. In the majority of cases, the police are not called to the scene. If there appears to be a medical emergency, EMS is dispatched to the scene (if unclear, the team responds along with EMS). If there is a mental health professional known to be involved with the patient's case, that professional's assistance is sought. If the situation is not an emergency and can be referred to a clinic-based mental health service, MCP often makes the appointment and follows up on the contact.

The field team always consists of at least two individuals. Team physicians and nurses are capable of administering medications in the field and they carry an array of psychopharmacologic agents to each emergency. All clinicians are trained in DSM-III-R diagnosis, crisis intervention, and accessing community resources.

Because the team functions as the emergency service of the mental health center, it can make initial contact with new patients, stabilize the crisis, and then quickly link them to continuing outpatient care and long-term treatment programs that help prevent hospitalization. When necessary, the team will visit patients several times until a crisis is resolved. If patients require hospitalization and no local beds are available, the team may provide more intensive services to manage patients in the community until a local bed becomes available. If appointments arranged for patients are not kept, the team often follows up with a mobile response.

The following case example illustrates the work of the team:

Case 1: A young woman with a history of bipolar disorder experienced psychotic mania after being "laid-off" from her job. She lost her hospitalization insurance benefits with the lay-off as well. She was too paranoid to leave her mother's home. The team went to the home, checked the patient's vital signs, drew screening blood tests and started the patient on antipsychotics and Li_2CO_3. She was seen at her mother's house daily for three days, while her family observed, supported and helped take care of her. On the fourth day the patient was in remission, and went to the unemployment office on her own to seek a new job. Her case was followed up at CDCMHC.

Case 1 illustrates how mobile intervention helped the patient return to function quickly, and avoided costly hospitalization. In addition, the patient did not have to suffer the anxiety and humiliation of being involuntarily brought to a hospital ER against her will.

EDUCATION, TRAINING, AND SUPERVISION

All first year psychiatry residents are assigned for one month to the team.[2] The resident's role is that of physician for the field team. Since at any given time the number of active cases vary, the residents learn to be efficient within a fluid system. The resident is required to seek supervision about clinical decisions from the chief resident or attending psychiatrist. When residents go into the field, they are accompanied by experienced team members. Supervision is on site or structured through cellular phone. Each case is discussed in detail. The attending or chief resident is available to go to the scene if necessary. At times the residents are asked to be only observers, thus allowing them to learn through modeling of more senior clinicians. Third and fourth year medical students rotate through the program, and they enjoy the exposure to community psychiatry. Each day begins with "supervision rounds" where cases seen during the previous 24 hours are reviewed and treatment planning for all active cases is formulated. All staff benefit from didactics and in-service training to keep abreast of new information and to help foster teamwork.

COLLABORATION WITH LAW ENFORCEMENT AGENCIES

In an effort to improve the overall care of psychiatric patients in severe crisis, a close liaison between MCP and local police departments has developed.[3] At the start of the program, meetings were held with police chiefs and mutual goals were openly discussed. Many members of the police force did not know how to handle hostage or barricade situations involving people with serious mental illness. We concluded that we should consult with the police in such cases. After the needs of law enforcement were discussed, and our operating procedures were explained, we asked the police for assistance in devising a security check-in system with their dispatch operators. We were assured that all precincts would set up such protocols. We also rode with the police on several nights so that we could better understand their responsibilities, which helped consolidate our beginning alliance. Within several months police began calling the program for assistance in life and death situations.

Case 2: A young, depressed man was drinking and began an argument with his wife. As she ran out of the house, he shot her in the back, and then barricaded himself in his house. The SWAT team was called in, all utilities were cut off by police, and the area was evacuated. After several hours of exchanging gunfire, MCP was called to the "standoff"; we were asked if we could talk the man out of the house. After taking the man's psychiatric and substance abuse history from his family and friends, a special phone line was connected to him so that only we could talk to him. After many rings, he answered the phone; he was extremely dysphoric, irritable and labile. He told us that since he had killed his wife there was no reason to live, so he "may as well kill some police" and then himself. We told him that at last report his wife was still alive and there could still be hope (we insisted that no one share information with us about her condition so that we would not exacerbate the situation or need to be untruthful in our intervention). We wanted him to know that we understood how desperate he felt. We also wanted to keep him talking, since over time his ethanol level would diminish, allowing him more control. After an hour of rapport building and giving reassurance, he put down his rifle and walked out.

Case 2 illustrates how cooperation between mental health and law enforcement can result in significant positive outcomes. Since the program began in 1987, MCP has been called numerous times by the police. For example, we worked closely with law enforcement during and after Hurricane Hugo, a time when almost supra-human demands were placed upon police. We've also debriefed police following critical incidents and have evaluated and recommended treatment to officers in crisis. Together, we have resolved dozens of potentially dangerous situations over the past five years and have incorporated such approaches into our teaching format for psychiatric residents.

EMERGENCY/DISASTER PREPAREDNESS

During disasters, people in the helping professions can help to mobilize services to benefit the community at large. Traditional, facility/office-based practice is impractical and the primary problem becomes access. In a disaster everything changes; this effect is disorienting and anxiety-provoking. Places that are familiar become unrecognizable due to lack of lighting, signs, communication or other means of obtaining orientation and direction. Food, ice, batteries, and generators are scarce and water is often undrinkable. Because of a lack of resources and the presence of overwhelming psychologic trauma during disasters, mobile outreach capabilities are needed throughout the community. Local emergency rooms become rapidly overcrowded because of the large number of accidental injuries in the community (e.g., chain saw accidents, cuts from broken glass or nails, fractures caused by falls, and traffic-related injuries due to the absence of electricity and traffic signals). Therefore, as much as possible, people should be provided with psychiatric emergency services at their homes or shelters.

During times of disaster, when community organizations need to work together in order to deal with the overwhelming physical and psychological trauma that results, the MCP coordinates with civil defense authorities on the local, state and federal levels.[3] The integration of mental health services with police, fire departments, emergency medical services, military officials, as well as county, state, and federal systems is critical to disseminate information to the public and to provide preventive and comprehensive mental health services to disaster victims. Disaster victims do not readily access traditional clinic or hospital-based services. The need for crisis intervention is apparent, only if providers venture out through the disaster areas. If one remains in the office, hospital, or clinic, a false impression may form that few psychiatric crises are occurring. Based on our experiences, with Hurricanes Hugo and Andrew, we advocate that an assertive approach to outreach crisis intervention is always indicated following a major disaster.

Case 3: In the aftermath of Hurricane Hugo, the team was called by police to evaluate a young man who threatened to kill a public official. The team arrived to find the man sitting in a partially destroyed house, without a roof. He and his mother, who had Alzheimer's disease, spent the night of the hurricane in the house. Each appeared depressed and scared. The patient needed to find a safe haven for his mother, so that he could apply for federal housing assistance. Each place that was contacted told him "they couldn't help." In a moment of desperate frustration, he told a police officer, "if I don't get help I'll kill someone," and mentioned a public official. Upon our evaluation, the patient was found to have symptoms of PTSD (post-traumatic stress disorder). He realized that saying something desperate would help him "get some action," but he had no intention of harming anyone. The team obtained temporary shelter for the mother, counseled the young man, revisited him on the next day, and the crisis was resolved.

In case 3, the patient was unable to problem solve due to PTSD and was unable to leave his disoriented mother. Mobile intervention resolved the crisis rapidly and without undue anxiety to the traumatized patient and his mother.

DISCUSSION

Patients in crisis are often confused or afraid. Transporting the mental health system to the patient circumvents inaccessibility of traditional services. The often inevitable route of involuntary hospitalization can be avoided if psychosocial and biological interventions are available at the scene of a severe crisis. Mobile response capabilities allow the team to assess strengths of the support system and to explore alternative dispositions. The team can effectively interface with numerous community agencies and broaden the resources available for crisis resolution.

Through its collaborative nature, the program in Charleston has been able to deliver previously unavailable services while helping to bridge the gap between academic and public sector psychiatry. While CDCMHC clinicians bring to the program the strengths of their practical experience, they also teach these skills to their colleagues in academia. Thus trainees and supervising faculty learn about community resources and principles of case management. University staff share new medical treatment and research data with their CDCMHC colleagues, and patients therefore receive better informed clinical services.

An orientation toward alternative service delivery models is timely. Psychiatrists must become comfortable in dealing with patients outside the office and hospital if they are to play a leadership role in the care of patients with severe and persistent mental disorders. The MUSC department of psychiatry provides a range of outreach oriented training experiences. This experience in "the laboratory of life" can spark an interest in general psychiatry for medical students, and in public psychiatry for residents. Trainees are challenged and stimulated to think in new ways and to apply their problem-solving skills to "real-world" situations. For example, directly witnessing the plight of a homeless man with schizophrenia can educate professionals to the sad realities of people in crisis and awaken one's zeal and compassion; ER or clinic evaluations can only portray a small part of a patient's story.

Programs such as MCP offer residents an opportunity to learn about the fluid nature of psychiatric symptoms and the effects of acute "field" interventions on the course of an illness. Exposure to such programs can also afford residents a valuable lesson in medical economics and may also acquaint them with the resources which are required in the development of comprehensive, community-based treatments. Five years ago, none of the MUSC graduating residents entered the field of public psychiatry. Over the past two years over 50 percent have taken public-sector related positions. Public-academic, collaborative programs involving strategies to improve access to care can encourage university physician trainees to be more sensitive to public health concerns and to advocate more effectively for necessary health care reforms. ❐

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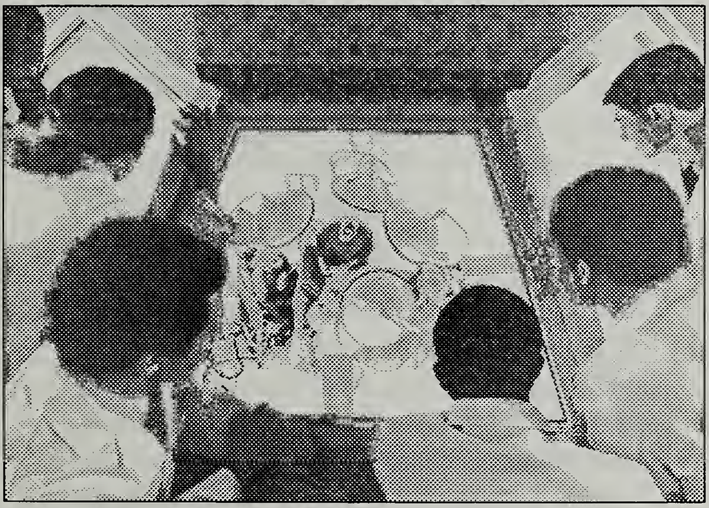

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TREATMENT AND RESEARCH ISSUES: BIPOLAR AFFECTIVE DISORDER AND SUBSTANCE ABUSE

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SUSAN SONNE, PHARM. D.
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There has been a recently growing interest in the relationship between psychopathology and addictive disorders. While it is clear from epidemiologic data[12] as well as data from treatment-seeking populations[14] that substance abuse disorders and other psychiatric disorders co-occur more commonly than would be expected by chance, the relationship between these disorders is not well understood.

PREVALENCE

Co-morbidity of psychiatric illness and substance use is a particularly important area when dealing with patients with bipolar affective disorder. In a recent epidemiologic survey of mental illness in the United States,[12] bipolar affective disorder was associated with the highest risk (odds ratio 6.6) of any major mental disorder for coexistence with drug or alcohol abuse. Sixty percent of patients in this study with bipolar affective disorder had a substance use disorder, 46.2 percent had an alcohol diagnosis and 40.7 percent had a drug abuse or dependence diagnosis. Alcohol and drug dependence, the more severe form of addictive disorder, is twice as likely to be found in patients with bipolar affective disorder when compared to unipolar depressed patients.

Data from the substance abuse treatment-seeking population support the conclusions from epidemiologic studies. The prevalence of bipolar affective disorder in the United States population is estimated to be slightly higher than one percent. The percent of persons with bipolar spectrum disorders (bipolar I and II disorder and cyclothymia) in the substance abuse treatment-seeking populations exceeds this in all studies reported to date. Weiss and co-workers[15] reported on 160 treatment-seeking substance-abusing patients. They found that 3.3 percent of opiate abusers, 22.2 percent of stimulant abusers, and 6.1 percent of depressant abusers met DSM-III-R criteria for bipolar spectrum disorders. In a more recent report,[8] this same group compiled data on 350 hospitalized drug dependent patients treated over a 10-year period. They found that four percent had bipolar disorder and 5.7 percent had cyclothymic disorders. Both bipolar disorder and cyclothymia were significantly more frequent in stimulant abusers (17.5%) when compared with opiate (5.4%) or sedative-hypnotic (6.8%) abusers.

Recent studies focusing on psychopathology in cocaine abusers have reported similar results. Rounsaville and co-workers[14] reported on a sample of 298 cocaine-abusing patients in which 20 percent met current criteria for bipolar affective disorder. Most reports of cocaine use in cyclothymic and bipolar patients indicate that patients use cocaine to intensify and lengthen euphoric mood states rather than to self-medicate depressive episodes.[15] While the percentages vary somewhat depending upon diagnostic criteria and methodology used, all studies suggest that there are substantial numbers of cocaine users with bipolar spectrum disorders.

Another perspective on this issue comes from investigation of substance abuse in samples of patients being treated for bipolar affective disorder. Reich and co-workers[13] surveyed records of 65 patients being treated for bipolar affective disorder. They found that 31 percent of these patients had a history of excessive drinking and that excessive drinkers were more likely to be found in the group who had required psychiatric hospitalization as compared to the group with no history of psychiatric hospitalization. Patients reported that the excessive alcohol use predominated during the manic phase of the illness. In a recent study, Brady and co-workers[1] found that 30 percent of patients hospitalized with bipolar affective disorder (6/20) met current criteria for drug or alcohol abuse dependence.

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DIAGNOSTIC DIFFICULTIES

There is much difficulty in diagnosing bipolar affective disorder in the face of substance abuse because drugs of abuse, particularly with chronic use, can mimic nearly any psychiatric disorder. This is particularly true of bipolar affective disorder and stimulant abuse. Stimulant intoxication can produce a syndrome indistinguishable from mania or hypomania. Substantial depressive symptoms quite often will emerge during stimulant withdrawal. Similarly, in the case of alcohol abuse, individuals often report feeling energized and euphoric during periods of intoxication followed by depression and anhedonia during withdrawal. When such patients describe the course of their lives, it is often marked by severe mood instability. Upon careful questioning about mood swings, it often becomes clear that the mood swings occur only during periods of intoxication and withdrawal. When taking a history from a patient with apparent mood instability as well as a substance use disorder, it is critical to focus on mood states and mood fluctuation during the period before the onset of the substance use disorder or during a period of at least two to three months of abstinence from substance use. If the patient describes clear symptoms of mood disorder during these periods which would meet DSM III-R criteria for an affective disorder, then the likelihood that they have an affective disorder which will outlast the intoxication and withdrawal phases is increased. Often, patients are unclear about the start of their affective symptoms and do not have a period of abstinence of sufficient length for diagnostic purposes. In such patients, hospitalization may be necessary to obtain the abstinence necessary for diagnostic clarity. It is important to bear in mind that substance users with affective symptoms are at high risk for suicide and their complaints must be taken seriously and investigated thoroughly. In hospital, it is important that the patient be observed for at least a 10-14 day period for diagnostic purposes. In a study of hospitalized alcoholics, Brown and Schuckitt[3] measured depression at admission and two and four weeks after hospitalization. While 42 percent of subjects had high depression ratings on hospital day one, by week four only six percent remained depressed. It is clear that a substantial amount of affective symptoms clear with abstinence from substances of abuse.

CLINICAL COURSE

Preliminary evidence indicates that patients with bipolar affective disorder complicated by substance use disorders have a worse course of illness. It has been noted[5] that bipolar patients with alcoholism were more likely to have dysphoric and irritable manic periods as opposed to euphoric mania, more likely to have rapidly cycling bipolar disorders (more than three episodes per year), and had a slower time to recovery. Others have found that patients with both bipolar disorder and substance use disorders were twice as likely to be hospitalized as bipolar patients without substance use disorders.[1,13] All of these findings point to a more destructive and deteriorating clinical course which may be explained by a "kindling" mechanism.

THEORETICAL IMPLICATIONS

An interesting theoretical perspective on the area of co-morbid bipolar affective disorder and substance use comes from the literature on behavioral sensitization or "kindling." It has been postulated that bipolar affective disorder is a "kindled" phenomenon because the course of the illness is often characterized by acceleration with successively shortened periods of remission between episodes of illness.[9] As previously discussed, cocaine and alcohol appear to be the most common agents of abuse in this patient population. Acute cocaine intoxication and alcohol withdrawal both appear to produce "kindling." Brown and colleagues[2] found that alcoholics with more episodes of alcohol withdrawal were more likely to suffer seizures during withdrawal suggesting progressive changes in the central nervous system as a result of repeated administration of and withdrawal from alcohol. Malcolm and colleagues[6] found carbamazepine, an anticonvulsant with potent anti-kindling properties to be as effective as oxazepam in the treatment of alcohol withdrawal.

With increasing dose and duration of use, cocaine produces symptoms resembling mood disorders progressing from mild hypomania to severe dysphoria with psychotic features.[11] Of interest, this progression resembles the progression of hypomania to psychotic mania observed in bipolar affective disorder patients. Cocaine potently kindles neurons and it has been postulated that this progression of symptomatology induced by cocaine may represent cocaine-induced kindling of psychopathology.[9]

It is interesting to speculate that when vulnerable individuals with an underlying bipolar diathesis abuse substances which are associated with kindling, it may produce or worsen the affective illness. This theoretical speculation has treatment implications which will be discussed.

TREATMENT

Lithium has been the mainstay of both acute and prophylactic pharmacologic treatment for bipolar affective disorder since the 1960s. However, there is currently little information regarding the treatment of bipolar affective disorder in patients with concomitant substance use disorders. Substance abuse has been listed as a predictor of poor response to lithium in several studies.[7] There is evidence to suggest that patients who have rapid-cycling bipolar affective disorder, dysphoric mania or who are no long responding to lithium may respond well to the anticonvulsant agents, valproic acid or carbamazepine. As previously mentioned, patients with a comorbid substance use disorder often fall into one of these groups. Both carbamazepine and valproic acid are potent anti-kindling agents. It may be that this anti-kindling mechanism is responsible for their clinical efficacy. In a preliminary open-label study at our site, nine patients with concurrent bipolar affective disorder and cocaine or alcohol dependence are being treated with valproic acid. In comparison to the year before vaproic acid treatment, seven of nine patients have had less frequent hospitalization, decreased mood swings, and decreased substance abuse. Four of nine have remained abstinent. In three subjects, emergence of depression has required the addition of antidepressant medication. A larger controlled study of anti-kindling agents in this patient population is warranted.

Some patients may not respond to either lithium or one of the anticonvulsant agents alone. In these cases, combination therapy is warranted. Lithium can safely be prescribed in combination with either valproic acid or carbamazepine. The combination of valproic acid and carbamazepine may be difficult because of the complicated pharmacokinetic interactions of the two agents. It is often necessary to use more than one medication in the treatment of complicated bipolar affective disorder. Neuroleptic agents can be useful if there is thought disorder or disorganization. Antidepressants are often indicated for the emergence of depression, but must be used with caution because of the possibility of precipitating mania or exacerbating rapid cycling. We have had good success in the treatment of bipolar depression with buproprion which may be particularly useful in rapidly cycling disorder[4] when compared to tricyclic antidepressants. Benzodiazepines are sometimes helpful in the treatment of sleep disturbance which can be associated with bipolar affective disorder. Benzodiazepines must be used with caution in the substance-abusing population because of their abuse potential. It is always wise to prescribe small amounts of benzodiazepines in a time-limited fashion with specific treatment goals in mind.

It is important to note that in addition to judicious pharmacotherapy for bipolar affective disorder, the substance use disorder must be aggressively treated. Even when the substance use disorder developed in the context of affective instability, and the patient views the substance use as "self-medication" of depression or mania, by the time it reaches clinical attention the substance use disorder generally warrants independent treatment. This can be accomplished by group or individual therapy or attendance at 12-step recovery groups. It is important to refer the patient to a treatment center or group knowledgeable and accepting of patients with substance use disorders who also require psychotropic medications and psychiatric care for stabilization. There are some recovery systems which are less enlightened about psychiatric illness where patients may receive mixed messages about the need for medication and psychiatric follow-up.

CONCLUSIONS

In conclusion, substance abuse, particularly cocaine dependence and alcoholism, is a far more common phenomenon in the population of patients with bipolar affective disorder than would be expected by chance. Diagnosis of these patients is fraught with difficulty because drugs of abuse can produce mood instability which mimics bipolar affective disorder. There is evidence that patients with comorbid bipolar affective disorder and substance use have a worse clinical course and require more frequent hospitalization. Early diagnosis and treatment is of critical importance. Clinicians should have a high index of suspicion for substance use disorder in all patients who have mood instability, particularly those with dysphoric mania and rapidly cycling moods. There is some theoretical rationale for the use of anticonvulsant, antikindling agents in this population, but no controlled studies have yet been reported. In addition to pharmacotherapy, the addictive illness should be addressed through group or individual therapy. It is hoped that future research efforts will focus on this very important and difficult-to-treat population. ❐

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Editorials

BUILDING A COMMUNITY-BASED SYSTEM OF MENTAL HEALTH SERVICES

People with a mental illness should be able to obtain services as close to home as possible, rather than going to large state hospitals miles away.

It's been almost three years since the Transition Leadership Council made this key conclusion after an indepth study of the state's mental health system.

The council was made up of 22 concerned citizens, mental health providers, government officials, department employees and representatives of advocacy groups such as the Mental Health Association in South Carolina, the S.C. Alliance for the Mentally Ill and Self Help Association Regarding Emotions, an ex-patient and consumer organization. Formed in spring 1989, the council was charged with recommending changes necessary to build a community-based system of care in order to reduce dependency on the state's two antiquated, long-term care psychiatric hospitals, Crafts-Farrow State Hospital and S.C. State Hospital.

In their final report in November 1990, the council made the following six key recommendations:

- establish a joint management council to implement the transition to local care;
- establish a funding plan using money from the department's Patient Paying Fee Account as bridge funds for the transition;
- establish a public academic liaison with South Carolina colleges and universities to prepare the work force that will accomplish the transition;
- establish a positive working environment that is supportive to staff who are pursing their careers in public mental health;
- establish a regional capacity only for those services that cannot be provided close to home; and
- establish a system-wide client and management information system to monitor the transition and to evaluate the accomplishment of goals and objectives .

The council also developed six broad goals regarding the future of public mental health services. They are:

- people with a mental illness will receive services as close to home as possible through South Carolina's community mental health centers;
- services that are beyond the capacity of individual community mental health centers will be developed by two or more centers on a regional basis or provided in a central facility;
- the following groups will be given priority for services—adults with serious mental illnesses; children and adolescents who are seriously emotionally disturbed, and seriously mentally ill people with special needs, such as alcohol and drug abuse problems, mental retardation, and involvement with the criminal justice system;
- new funds will be sought to increase the capacity of communities across the state to meet the needs of people with mental illness, including local hospitalization and the other community services that have been proven to be effective;
- existing funds will be reallocated as patient care is shifted from central facilities to local communities; and
- mental health professionals who work in South Carolina's public mental health system will be well prepared to provide the range of services needed. All training will be designed to be sensitive to the needs of minority clients and families.

In an effort to get public reaction to these goals, the council sponsored a series of public forums across the state. During 1990, citizens were asked to discuss and explore their feelings about the mentally ill living in their neighborhoods and communities and to identify concerns they had, if any, about people with a mental illness being treated as close to home as possible. Over 1,000 citizens participated in these forums.

A major conclusion was not to build new hospitals, but rather to invest first in developing an array of services within communities so people who suffer from mental illnesses can be treated as close to home as possible. This would include having local general hospitals provide acute care for people with mental illness. It would also mean having emergency and crisis care services available 24 hours a day, seven days a week.

Although our mental health system has been moving toward local care for many years, we used the council's recommendations as an impetus to take major steps toward achieving transition to a community-based system of care.

I am happy to report that our achievements have been significant over the past two years. Following are a few examples:

We rewrote our agency's mission statement to reflect our philosophy to provide quality services in the community and to prioritize the groups of people who need our services.

We established a joint management implementation council, a 21-member Transition Council that began meeting in February 1991 to implement the recommendations of the Transition Leadership Council. I accepted the members' recommendation to chair the council. This council identified four areas around which to center its work for the next few years-education, training, recruitment and retention of employees; financial issues; client services; and information and evaluation.

In 1991, this council surveyed 663 long-term psychiatric patients to determine what services each patient would need to live in a community setting. The survey brought hospital staff and community mental health center staff together to discuss patient needs. If center and hospital staff did not agree, they were asked to negotiate until they reached agreement. The two staffs disagreed on recommendations for 60 of the 663 patients surveyed, but reached a consensus for each of these patients.

Once the survey was completed, the Transition Council began exploring ways to implement the desired community placements. The council decided to use a "free market" approach and asked the 17 mental health centers to propose programs for community placements and services for clients from their catchment areas. Twelve mental health centers made 16 proposals addressing programs for 196 of the clients in the survey.

The Transition Council evaluated the proposals and recommended that DMH fund eight proposals that address the needs for 145 clients and have an annual cost of $2.9 million. These proposals include staffed apartment settings, independent living with intensive case management, and "foster family" programs. DMH awarded these proposals in July 1992.

Our transition to community-based care will create new demands on our manpower resources and skills. In order to better prepare for these future demands, we established a South Carolina Public-Academic Mental Health Consortium. The consortium includes 13 academic programs from seven South Carolina colleges and universities that prepare people in the core disciplines in public mental health. The consortium will help ensure that future graduates will possess the knowledge, skills, attitudes and abilities to work in the public mental health system.

Also in this same area of emphasis, under a three-year Human Resources Development grant, we recently established an office of consortium research and hired Elizabeth McDonel, Ph.D., who came on board in April of 1993. She will encourage research that relates in a substantial way to the improvement of public mental health services in South Carolina, particularly for children and adults with a severe and persistent mental illness. She will also develop methods by which research results will be communicated quickly and clearly to the Department, members of the consortium and the academic community.

We took a bold step in communication and client care by initiating a continuity of care computer project. The original design was to link Harris Psychiatric Hospital with all of its area mental health centers to transmit treatment and discharge data. The centers receive this data no later than one day following discharge, and Harris staff can confirm aftercare discharge appointments by date, time and location in the client's community.

This regional pilot program resulted in a similar link-up of hospitals in our system's remaining three service areas. For the first time, our agency has a statewide capability of timely and direct access to client information. This enables mental health professionals to des,ign and relate more appropriate treatment responses as clients move from point to point in their rehabilitation, resulting in higher quality client care through increased interaction between facility and community mental health center staff.

We recently awarded a contract to the Unisys Corporation to develop a new computer system for our 17 community mental health centers. The contract provides for installation of new state-of-the-art hardware and software. The system will improve agency-wide data communications, improve accessibility to computerized client records, automate community mental health center activities that were previously manual, and enhance capability to track the efficiency and effectiveness of services delivery. Plans call for completion of the implementation at all centers by mid-1994.

In the area of housing and homelessness, our DMH Housing Development Program has secured funding for 231 units of housing. There were 131 units developed prior to the program's initiation. This process takes two to four years from application to occupancy, so we had occupied only 21 units as of January 1993. This year, that number should be over 100. We should be able to develop 100 units per year, if we keep the rate of applications at the present level.

The key to our continued success is this area is hard work on the part of community mental health centers and their non-profit partners, combined with matching funds from DMH and other sources such as the S.C. Housing Trust Fund.

As of September 1992, there were 96 clients employed in DMH transitional employment programs, 91 clients in supported employment, 59 in regular competitive employment and 339 clients who volunteer in various positions in our communities.

We have made great strides toward reducing the S.C. State Hospital and Crafts-Farrow State Hospital bed days utilized by each community mental health center catchment area and improving the quality of life of those people. Transition has helped drop the census at S.C. State Hospital from 652 to 390 and at Crafts-Farrow from 530 to 410 (from January 1989 to January 1993).

An interesting historical perspective may provide some sense of the magnitude of our transition. The four-hundredh patient was admitted to S.C. State Hospital in 1870. The highest census for the S.C. State Hospital on Bull Street numbered 5,500 patients in the mid-1950s. The first time the census went below 400 occurred in January 1993. In other words, it took 123 years to finally break a census pattern reflecting a centralized inpatient system located in Columbia.

As of January 1993, of the 145 patients at S.C. State Hospital who are scheduled to be placed in the community this fiscal year, 50 are living in supported independent situations around the state, through projects coordinated by seven community mental health centers. These patients, some of whom had been in and out of hospitals for many years, now live in their communities in residential care facilities, with foster families, in respite homes, community care facilities, apartments and boarding homes.

I could go on and on describing our efforts to build a comprehensive community-based system of care. But, quite honestly, there are no amount of lists, no statistics, no dollar figures that could more poignantly portray the success of our endeavors than the spark of enthusiasm and sense of pride I have seen in our employees, the ones who work directly with the patients and who have seen the quality of the patients' lives improve.

The manpower issues in the transition are enormous. Our plan to absorb reductions through attrition has avoided layoffs. We also give Crafts-Farrow and S.C. State Hospital employees first priority when filling vacancies that occur. This has resulted in transferring resources to our community mental health center to increase their services capabilities.

For our employees, their measure of success is not in numbers or dollars, it's in their patients' sense of dignity and raised self-esteem. It is the joy they see on a client's face when an employer says, "You're hired." It's the pride they feel when a client. who has been a recluse for years, receives their first paycheck. It's a former S.C. State Hospital patient getting back his driver's license and making the first payment on his new car. It's a former Crafts-Farrow patient, who had been hospitalized for 25 years, inviting them in to her new apartment and proudly showing them the decorations on her wall and the food in her refrigerator.

The care of the mentally ill has changed considerably from what we understood in 1821 when the Legislature authorized the building of the South Carolina Lunatic Asylum. The next century will see developments that will promote local care for people with mental illness. The extrusion of the mentally ill from our communities will no longer be an acceptable policy.

It is my sincere hope that our efforts to build a comprehensive community-based system of care for people who suffer from mental illnesses will assure them acceptance in their communities and allow them to live with dignity and as independently as they are able.

Joseph J. Bevilacqua, Ph. D.
S.C. State Commissioner of Mental Health
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Letters to the Editor

To the Editor:

In April, 1968, R. Layton McCurdy, M.D., my predecessor as Chairman of the Department of Psychiatry and Behavioral Sciences at the Medical University of South Carolina, had just assumed his new position. As the "state's newest psychiatrist," he wrote a letter to the editor of *The Journal of the South Carolina Medical Association* in response to an editorial previously published in the Journal by Dr. Waring, then editor of *The Journal*. Dr. Waring had made some comments indicting the current "state of knowledge about the etiology and treatment of mental disorders," and suggesting it might be a "result of a lack of industriousness and an isolation by practitioners of psychiatry."

Dr. McCurdy correctly reported that, although there were only 65 members of the American Psychiatric Association in South Carolina, this three percent of South Carolina physicians were caring for the psychiatric patients who occupied 40 percent (6400) of South Carolina's 15,000 hospital beds. Dr. McCurdy closed with an invitation to the editor to become "better informed about the practice of psychiatry in South Carolina." *The Journal's* current editor, Dr. Charles S. Bryan is not only better informed but solicited the articles on psychiatry in South Carolina which will be appearing in this and other issues of *The Journal* in the next year. As the reader can see, in the intervening 25 years remarkable progress has been made in this area in our state. These articles describe major advances in treating substance abuse, dementia, eating disorders, psychiatric illness in children, post-partum depression, and one of psychiatry's oldest but most improved treatments, electroconvulsive therapy. There are also several articles describing successful efforts to make modern psychiatric treatments available to previously underserved populations including those with both addictive and psychiatric disorders, emergency patients, indigent/uninsured, and those living in rural areas.

Psychiatry has, in fact, made remarkable progress, and this is reflected by the change in South Carolina where there are two successful general psychiatry residency training programs at MUSC and USC (William S. Hall Psychiatric Institute) as well as specialty programs in child psychiatry, forensics, substance abuse, geropsychiatry, and other areas. Close to 120 residents and fellows are in training in these programs, making South Carolina one of the largest trainers of psychiatrists per capita in the country.

Most would agree that psychiatric science is exploding and has made more progress in the past 25 years than in all its previous history. The tremendous growth in the science of psychiatry, as well as the development of more biological and medical approaches to psychiatric illness, have finally brought it into the mainstream of medical science. Most would agree that psychiatry is no longer "isolated" from the rest of medicine and, in fact, extramural (federal, corporate, foundation) funding for research is highest for the psychiatry department of all the departments at MUSC, affecting both the progress in psychiatric science and in psychiatry in South Carolina.

Dr. McCurdy left South Carolina in 1982 for Philadelphia, after 15 years of building MUSC's Department of Psychiatry. Over the past decade I have enjoyed our attempts in Charleston to extend the quality and availability of modern psychiatry to South Carolina citizens; reduce the extreme shortage of psychiatrists, especially child psychiatrists practicing in our state; and contribute to the evolution of science and research pertinent to psychiatric patients. Dr. McCurdy returned in 1990 as the "newest dean of a medical school in South Carolina," and we are enjoying him and his remarkable abilities to guide this medical school. I would like to thank *The Journal* for heeding his suggestion of so many years ago by dedicating this issue to making physicians in South Carolina more aware of the progress in psychiatric medicine.

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On the Cover:

THE ROBERT MILLS BUILDING

A monument to South Carolina's progressive spirit in the treatment of the mentally ill in this state, is the Mills Building on the grounds of the South Carolina State Hospital. Our cover is a lithograph taken from the November 1853 Annual Report of the South Carolina Lunatic Asylum. This building was designed by Robert Mills (1781-1855) who was one of the first Americans trained as an architect and engineer. Born in Charleston, South Carolina, and educated at the College of Charleston, he studied architecture with Thomas Jefferson. He designed more than 50 important buildings in the Washington area, but the most notable structure there is his Washington Monument.

Robert Mills, in describing the building which now bears his name said, "The asylum for lunatic persons is another of those institutions established by the liberality of the state in this place. The building is now nearly finished and will probably soon go into operation. The design of it is both novel and convenient. It combines elegance with permanence, economy and security from fire. The rooms are vaulted with brick and the roof covered with copper. The building is large enough to accommodate upwards of 120 patients, besides furnishing spacious corridors, hospitals, refectories, a medical hall, several parlors, keepers' apartments, kitchens and sundry offices. The whole is surrounded by a lofty enclosure. The cost of the whole is considerably within $100,000. Similar buildings executed at the North and in England of equal accommodations, yet not made fireproof, have exceeded this sum. The facade of this asylum represents a centre and two wings, and is crowned with a large cupola, opened all around with sashed windows, which serve the purpose of a ventilator to the hospital story.

"The entrance of the centre building is under a grand portico of six massive Greek Doric columns, four feet in diameter, elevated on an open arcade, and rising the entire height of the wing buildings; the whole is surrounded with a pediment. Only two sections of the wings are now built, one on each side. These with the centre, being considered sufficient to answer the present demands of the country. The design, however, is such, that without disturbing its symmetry, any additional accommodations may be made. The plan, when completed according to the original design, will sweep a semicircle, or horse-shoe figure, and encloses a spacious court to the South."

The articles in this and subsequent issues of *The Journal* will describe the ongoing pioneering spirit for caring for the mentally ill in South Carolina.

Robert N. Milling, M. D.
William H. Hall Psychiatric Institute
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Columbia, SC 29202

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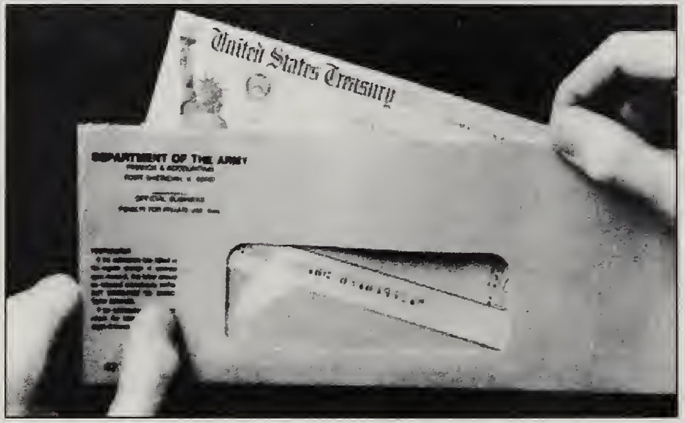

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President's Page

WHY NOT DO THE POSSIBLE?

President Clinton's health care system reform proposal has significant potential for major effects upon the provision of health care in this country. There is consensus among the key players about some aspects of the proposal; so why not quickly implement those reforms which have general approval and which would have minimal financial impact.

My recommendations would be as follows:

1. **Administrative Reform:** Adopt a single insurance claim form which could be utilized with all payors which would move toward minimizing clerical hassles.
2. **Malpractice Reform:** Meaningful changes in our tort system which would utilize practice parameters, caps on non-economic damages and other components would save significant resources now expended on defensive medicine and insurance premiums.
3. **Antitrust Reform:** Help eliminate unnecessary duplication of services by permitting negotiation of competitive charges. Antitrust legislation must be changed to permit discussion and collaborative actions among providers.
4. **Antifraud Reform:** Improved mechanisms to identify and sanction fraud would result in more efficient utilization of resources.
5. **Insurance Reform:** Various changes such as community rating, portability of coverage, and elimination of preexisting condition exclusions, among others, would make coverage more widely available to all segments of the population.
6. **Premium Deductibility:** Businesses can already deduct health insurance premiums. By extending this deduction to individuals, coverage would be increased due to a more affordable product.
7. **Medicaid Reform:** Federal mandates make this program inflexible, unwieldy and extremely costly to administer. We need the ability to tailor this program to something which will work effectively and efficiently in our state.

These changes would, if implemented in aggregate, improve the quality and quantity of medical care delivered while utilizing less of our precious resources than are currently expended.

E W Catalano MD

Edward W. Catalano, M. D.
President

The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

Contents

Special Issue: Rheumatology in South Carolina, Part 2

Guest Ediitors: E. Carwile LeRoy, M. D.
Richard A. Hoppmann, M. D.

511 Fibromyalgia
Kathleen P. Flint, M. D.

516 Lupus and its Management
Duncan M. Fagundus, M. D., E. Carwile LeRoy, M. D.

531 Diagnosis and Management of Common Tendinitis and Bursitis Syndromes
Richard A. Hoppmann, M. D.

536 Raynaud's Phenomenon and Connective Tissue Diseases
Philip A. Waller, M. D., E. Carwile LeRoy, M. D.

Editorials

546 A Dialogue for the Management of Common Musculoskeletal Disorders
E. Carwile LeRoy, M. D.

Features

551 Alliance Page
548 On The Cover
509 President's Page

Association

549 Gray Matter
527 SCMA Newsletter

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FIBROMYALGIA

KATHLEEN P. FLINT, M. D.*

Clinicians in all specialties commonly encounter patients with unexplainable chronic pain. Many of these patients have fibromyalgia – a syndrome characterized by musculoskeletal pain often accompanied by gastrointestinal, neurologic, and sometimes genitourinary or gynecological complaints. A working knowledge of the diagnosis and treatment of the fibromyalgia syndrome can be useful for physicians across the broad spectrum of medical practice.

Fibromyalgia is a common problem; estimates of its prevalence in general medical practices range from three to five percent, with a prevalence of up to 20 percent in rheumatology practices.[1] This compares to a prevalence of one percent for rheumatoid arthritis. While most patients are female between the ages of 25 and 50, fibromyalgia occurs infrequently in males, as well as in pediatric and geriatric populations. Many patients associate the onset of symptoms with a distinct event, commonly a physical or emotional stress or an illness (often viral). Others note the insidious onset of symptoms. Fibromyalgia may accompany other rheumatic conditions such as rheumatoid arthritis, systemic lupus erythematosus, or osteoarthritis. No clear familial predisposition has been noted.

DIAGNOSIS

Much of the controversy surrounding the fibromyalgia syndrome relates to a confusing nomenclature and to lack of standard diagnostic criteria. The term *fibromyalgia* is now preferred to *fibrositis*, which had been used as a general term describing soft tissue rheumatic pain syndromes including fibromyalgia and myofascial pain syndromes. In 1990 the American College of Rheumatology (ACR) developed a set of criteria for fibromyalgia which includes (1) a three-month history of widespread pain which is symmetric above and below the waist, and includes the cervical or thoracic spine, anterior chest, or low back, and (2) the presence of pain to palpation in 11 of 18 characteristic tender points (Figure 1, Table 1).[2] It should be noted that these criteria were devised as classification, not diagnostic, guidelines to aid in comparison studies. They omit common fibromyalgia symptoms such as sleep disorder, fatigue, and other extraskeletal manifestations. The criteria should be used much like the American College of Rheumatology systemic lupus erythematosus criteria; while they are useful diagnostic guidelines, an individual patient can be diagnosed with the disorder without strictly fulfilling the criteria.

Pain is the cardinal symptom of fibromyalgia. Patients are often unable to describe the pain but may characterize it as "burning" or

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TABLE 1
TENDER POINT SITES

Occiput	bilateral, at the suboccipital muscle insertions
Low cervical	bilateral, at the anterior aspects of the intertransverse spaces at C5-C7
Trapezius	bilateral, at the midpoint of the upper border
Supraspinatus	bilateral at origins above the scapula spine near the medial border
Second rib	bilateral, at the second costochondral junctions, just lateral to the junctions on upper surfaces
Lateral epicondyle	bilateral, 2 cm distal to the epicondyles
Gluteal	bilateral, in upper outer quadrants of buttocks in anterior fold of muscle
Greater trochanter	bilateral, posterior to the trochanteric prominence
Knee	bilateral, at the medial fat pad proximal to the joint line

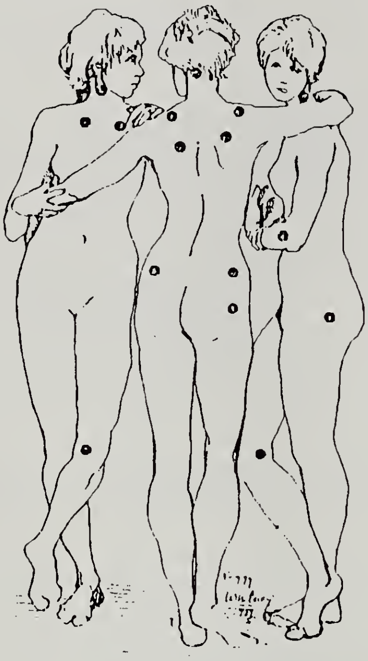

Figure 1 Tender point sites (From Wolfe F, Smythe HA, Yunis MB, et al: The American College of Rheumatology 1990 criteria for the classification of fibromyalgia. Arthritis and Rheumatism 33:160-172, 1990; used by permission of the American College of Rheumatology).

"shooting." They may be unable to localize the pain and say that they "hurt all over." As noted in the ACR criteria, pain is widespread and prominent in the axial skeleton, although many describe pain or tingling in the hands or feet. The pain is often exacerbated by cool drafts, changes in weather, or stress. Patients frequently note morning stiffness which, if persistent for greater than one hour, is worrisome for an inflammatory process. They may describe joint swelling which they actually localize to extra-articular areas. Fatigue can be profound; it commonly persists throughout the day and may be difficult to differentiate from the fatigue associated with true inflammatory conditions. In the latter, the patient often feels relatively energetic upon arising but fades during the afternoon. A sleep disturbance is also characteristic of fibromyalgia syndrome; although patients often are exhausted and fall asleep easily, they tend to awaken throughout the night, sometimes with pain or for inexplicable reasons. They do not feel rested or refreshed in the morning despite their sleep duration. Usually it is the quality of sleep which is distinctly decreased, rather than the hours in bed. Many complain that they feel worse in the morning than they did before going to bed the previous night.

Other extramusculoskeletal symptoms including headache (either tension or migraine), irritable bladder, and dysmenorrhea are common complaints of fibromyalgia patients. Irritable bowel symptoms are noted by 50 to 80 percent of these patients. An increased incidence of Raynaud's phenomenon and sicca symptoms (dry mouth and dry eyes) has been reported in fibromyalgia even in the absence of an underlying autoimmune process. Constitutional symptoms such as fever and weight loss are not expected in the fibromyalgia patient.

Both the presence and absence of certain findings on physical examination are important. Typical tender points are detected by palpation with the thumb or first two fingers. Often this elicits a "jump sign" of withdrawal in the patient who often remarks that the examiner found previously unrecognized tender sites. Several control sites such as the mid forearm, the forehead, and the thumb should also be tested. These should not be as tender as the trigger points, although some have reported a generalized hypersensitivity in fibromyalgia. The examiner may also note muscular tension with skin fold tenderness, vasoreactivity (demonstrated by mottling of the skin), or dermatographism. Joint inflammation or deformity, muscular weakness or neurologic abnormalities are not characteristic of the primary fibromyalgia syndrome; their presence suggests another underlying process or secondary fibromyalgia.

While ancillary testing is not necessary for the diagnosis of fibromyalgia syndrome, laboratory studies or radiographs may be indicated in selected patients. Because the differential diagnosis of fibromyalgia includes inflammatory arthritides such as rheumatoid arthritis, systemic lupus and ankylosing spondylitis, polymyalgia rheumatica, inflammatory myositis, endocrinopathies (especially thyroid and parathyroid disease) and metastatic carcinoma, a thorough history and physical exam are vital to exclude these possibilities. Many rheumatologists routinely obtain thyroid function studies, complete blood count, serum creatine phosphokinase, and an erythrocyte sedimentation rate in these patients. A positive rheumatoid factor and antinuclear antibody should be interpreted with caution, as they may be present in low titer in 10 to 20 percent of fibromyalgia patients, even in the absence of diagnosable autoimmune disorder.[3]

Two additional chronic pain syndromes, regional myofascial pain syndrome and chronic fatigue syndrome, share features with the fibromyalgia syndrome. The myofascial pain syndrome can be differentiated from fibromyalgia by the localized nature of symptoms and because palpation of muscular trigger points causes referred pain. These trigger points are often located in the muscle belly rather than the musculotendinous junction. Myofascial pain, in contrast to fibromyalgia, predominates in males. Pain and stiffness are regional, rather than wide spread. The myofascial pain syndrome may also be associated with a sleep disorder but fatigue is not marked. Regional myofascial pain syndromes often respond to local physical therapy such as injections or spray and stretch techniques. The prognosis is generally favorable.[4] Diagnostic criteria for myofascial pain syndromes are not standardized, and some consider them a form of localized fibromyalgia.

The symptoms of chronic fatigue syndrome can mimic those of fibromyalgia, and the syndromes can coexist. One study found that 70 percent of chronic fatigue syndrome patients met criteria for fibromyalgia.[5] In this study, all chronic fatigue patients with musculoskeletal pain had a pain history and tender point examination characteristic of fibromyalgia. Chronic fatigue syndrome can usually be differentiated from fibromyalgia in that certain symptoms and findings including low grade fever, pharyngitis and lymphadenopathy are not noted in fibromyalgia.

PATHOPHYSIOLOGY

Many theories have been advanced to explain the fibromyalgia syndrome. Interest has centered on sleep abnormalities, other central or peripheral nervous system changes, the psyche, and the muscle. The sleep disorder may be explained by interruption of non-rapid-eye-movement (NREM) sleep by the alpha waves characteristic of quiet wakefulness. This phenomenon has also been reported in normals and in rheumatoid arthritis patients, so it is not specific for fibromyalgia. This sleep pattern is not one typical of insomniacs. Induction of this sleep pattern has, in some subjects, been followed by the development of diffuse musculoskeletal pain characteristic of fibromyalgia.[6] Other sleep disturbances such as nocturnal myoclonus and obstructive sleep apnea may predispose to the development of fibromyalgia. Some research suggests that neurotransmitters such as serotonin and substance P are abnormal in these patients; this might explain the benefit of drugs, such as tricyclic antidepressants, which alter neurotransmitter dynamics. Investigation of the peripheral nervous system has yielded conflicting results; some have reported increased adrenergic activity, but this has not been confirmed.

Many psychological studies have been undertaken to discern whether this syndrome may simply be a manifestation of depression or anxiety. While symptoms are often exacerbated by stress or depression, at most only 25 percent of fibromyalgia patients are found to have active psychological disorders. Minnesota Multiphasic Personality Inventory (MMPI) testing has shown that the severity, but not the presence, of symptoms correlates with psychological factors.[7] One author found that "illness worry" correlates with disability in these patients. Fibromyalgia patients have been found to have higher everyday stress levels than rheumatoid arthritis patients or controls; this is interesting given the putative impact of stress on the immune system. Research has not supported the presence of conversion hysteria or somatization disorders in this population.

Fibromyalgia patients have decreased muscle strength and endurance capacity, but there are no well-supported data to suggest a primary muscle disorder. A model which may be useful in discussion with patients is that the sleep disorder leads to fatigue, deconditioning, and unfit muscles which are prone to "microtrauma" and chronic pain.[8] No consistent immune abnormalities, either humoral or cell-mediated, have been identified.

TREATMENT AND PROGNOSIS

Therapy for fibromyalgia is multifaceted and includes education, exercise and other physical measures, and drug therapy. Education is probably the most important component, since patients' anxiety has often been heightened by prolonged suffering and diagnostic evaluations. Most patients have seen many physicians and are quite frustrated. The diagnosis and prognosis of fibromyalgia should be discussed with the patient and her family, and they should be reassured that this is a common syndrome that is not life-threatening or crippling. Counseling often requires lengthy and repeated question-and-answer sessions. Literature about fibromyalgia may help the patient and her family realize that this is a recognized syndrome; the Arthritis Foundation has an excellent patient information pamphlet.

Exercise is vital to therapy. Most patients should start with a generalized stretching routine, prescribed by the physician or by a physical therapist. The patient should be warned to start slowly, because pain will likely increase upon initiation of exercise. The activity level should be gradually increased to include walking, stationary biking or swimming. This exercise prescription is based more on clinical observation than on objective data, although one controlled trial demonstrated that participation in a cardiovascular conditioning program decreased pain levels.[9] Attention should be directed to posture as well as the work and sleep environments. Local therapy such as tender point injections, heat, cold, electrical stimulation, and acupuncture help some patients, but have not been systematically studied.

Pharmacologic therapy for fibromyalgia is directed to anti-inflammatory, analgesic, and sleep-enhancing measures. Corticosteroids are not beneficial, and if a patient responds to corticosteroids one should question the diagnosis of fibromyalgia. Nonsteroidals have been used with generally disappointing results, although one randomized trial demonstrated that a combination of moderate-dose ibuprofen (2.4 grams daily) and alprazolam was superior to placebo or either agent alone [10] Clinical experience suggests that, while some fibromyalgia patients partially respond to nonsteroidal anti-inflammatory agents (probably due to the analgesic effect) and in fact may remain on nonsteroidals for years, many are intolerant of these medications. Simple analgesia with acetaminophen may be preferable in many patients because of its cost and favorable side effect profile. Because anti-inflammatory and analgesic treatment is not often satisfactory, pharmacologic intervention focuses on correction of the sleep disturbance. Low dose tricyclic antidepressants such as amitriptyline 10-50 mg. given before bed have been shown to diminish pain levels. Bedtime cyclobenzaprine (10-40 mg.) has been found in some studies to be comparable to amitriptyline. Most patients who respond do so within the first month; often the sleep disturbance responds more promptly than the fatigue or pain.

Most of these patients experience chronic pain that significantly affects their lives. Approximately 25 percent will enter remission, but symptoms often recur. A recent study suggests that 12 percent of fibromyalgia patients consider themselves disabled; 15 percent in this group were receiving disability payments.[11] Most are able to continue working, but may require job site or task modification or a change in employment.

Fibromyalgia is a syndrome that most physicians will encounter. Diagnosis depends on recognizing characteristic symptoms and proceeding with a focused history and straightforward physical exam. Prompt diagnosis can reassure the patient, obviate the need for extensive diagnostic testing, and facilitate treatment which, although not curative, can improve the patient's function and quality of life. Physicians are often frustrated by these patients because they look well and lack striking objective abnormalities but complain of persistent pain, fatigue and disability. They do not fit our usual biomedical models of disease, and there is the tendency to dismiss their symptoms as exaggerations of normal musculoskeletal complaints. Fibromyalgia remains a controversial and poorly understood problem, but research suggests that it may indeed have a physiologic rather than functional basis. Until more questions are answered, fibromyalgia, like other chronic pain syndromes, will remain an entity that taxes our medical arts. ❐

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LUPUS AND ITS MANAGEMENT*

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The treatment of systemic lupus erythematosus (SLE), a prototype of autoimmune diseases, has substantially improved over the past 35 years. The generalist should be integrally involved in the care of SLE patients; therefore, a fundamental framework to diagnose and care for lupus patients is briefly presented. The following case introduces several aspects of the diagnosis, chronicity and manifestations of SLE.

CASE PRESENTATION

RB, a 15-year-old white female, presented with one week of markedly increasing bilateral knee and ankle pain, subjective fever and a single episode of painless gross hematuria. She related a six month history of intermittent headaches, arthralgias of the lower extremities, an intermittent erythematous facial rash, cervical adenopathy and oral ulcers. She reported increasing fatigue and a 30 pound weight loss. Her family related some auditory and visual hallucinations and a single transient episode of diplopia.

Her physical exam revealed normal vital signs with height at the 50th percentile and weight at the 90th percentile. HEENT exam revealed an erythematous malar rash which spared the nasolabial folds and erythema of the soft palate. She had marked palmar erythema and dark, erythematous, blanching macular lesions of the fingertips. Mental status examination revealed a slightly depressed affect. The remainder of the exam was unremarkable.

Laboratory data were remarkable for an ANA titer of 1:10,240 (homogenous pattern), depressed C3 and C4 serum complement levels, a Coomb's positive, normochromic, normocytic anemia with hemoglobin 8.8mg/dl, leukopenia with white blood cell 2.2 thousand and a Westergren erythrocyte sedimentation rate of 114 mm/hr. Further evaluation included a normal head CT, ECG, lumbar puncture and psychometric testing. A bone marrow biopsy was normal. An anti-DNA antibody titer was 1:2,560. Renal evaluation revealed a creatinine clearance of 93 cc per minute and a normal urinalysis.

A diagnosis of SLE was made and therapy was initiated with prednisone 20 mg twice a day and hydroxychloroquine 200 mg a day after normal baseline ophthalmological exam. She and her family were counseled regarding her diagnosis and potential complications of systemic lupus erythematosus. She was warned regarding sun exposure and the need for high grade sunblock. She was instructed on a weight-reduction diet.

After three months of therapy, her joint pains, rash, adenopathy and oral ulcers had improved remarkably. Her Westergren sedimentation rate was 26 mm/hr, her hemoglobin had risen to 13.1 mg/dl and serum complement levels had become normal. Control of her disease required continued steroid therapy over the next year. Lower doses of prednisone were associated with fatigue, marked arthralgias and hypocomplementemia. Nonsteroidal anti-inflammatory agents and hydroxychloroquine were insufficient to control her symptoms. She developed a cushingoid appearance and progressive weight gain up to 250 lbs. Persistent efforts to discontinue steroids were successful by age 17. She was able to decrease her weight to 175 lbs. Throughout this time renal, hematologic and ophthalmologic parameters were monitored.

At 18 1/2 years of age, her disease flared.

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She developed fevers to 101° F., fatigue, anorexia, pleuritic chest pain, oral ulcers and shotty cervical adenopathy. Laboratory data at that time revealed a Westergren sedimentation rate of 92mm/hr, anti double-stranded DNA antibody titer of 1:5,120 and worsening hypocomplementemia. An active urinalysis with one plus protein, 11-20 wbc/hpf and 3-5 rbc/hpf and doubling of her serum creatinine from 0.7mg/dl to 1.4mg/dl was felt to represent active renal involvement. She was began on prednisone 30mg per day. Her hydroxychloroquine was discontinued and azathioprine (Imuran) was started. Within four weeks, her symptoms had resolved and a follow-up 24-hour creatinine clearance was within normal limits. Her prednisone was tapered over the next several months to 5 mg every morning.

At age 20, she developed right shoulder pain and left sided pleuritic chest pain. Laboratory data at that time included a Westergren sedimentation rate of 64mm/hr. X-rays revealed a loculated moderate left pleural effusion. Evaluation for pulmonary embolus and infection was negative and multiple thoracenteses were unsuccessful. Her symptoms improved without treatment. Her Imuran dose was increased under the assumption that this represented increased lupus activity. The pleural effusion had nearly resolved one month later.

MANIFESTATIONS OF SLE

Classification criteria for SLE developed by The American College of Rheumatology have been in use for over ten years (Table 1).[1] This list has been limited in order to increase the sensitivity and specificity of the overall criteria. Presence of four of the eleven items (not necessarily simultaneously) strongly suggests SLE. However, numerous other symptoms and signs can be present in SLE patients.

In our experience, constitutional symptoms are common with fatigue nearly a universal complaint. It may precede the diagnosis of lupus and worsen with flares. It is important to consider other causes of fatigue and to note sudden changes in the pattern as a clue to an impending flare. Also, about 80 percent of patients will experience anorexia with weight loss of at least five pounds. Another constitutional symptom is fever greater than 100° F. SLE may present as a fever of unknown origin. Obviously, occult infection should be considered in a lupus patient with fever, especially when the patient may be immunosuppressed both by lupus and by medications. A low white count, low serum complement and increasing serologic titers suggest increased disease activity in SLE patients. However, fever secondary both to lupus and to infection can present simultaneously.

About 90 percent of patients will exhibit musculoskeletal manifestations, including myalgia, arthralgias and arthritis. The arthralgias and arthritis may initially be migratory. With time, a symmetrical pattern involving the PIPs, MCPs, wrists and knees is common.

Table 1
The 1982 revised criteria for classification of systemic lupus erythematosus

Criterion		Definition
1. Malar rash		Fixed erythema, flat or raised, over the malar eminences, tending to spare the nasolabial folds
2. Discoid rash		Erythematous raised patches with adherent keratotic scaling and follicular plugging; atrophic scarring may occur in older lesions
3. Photosensitivity		Skin rash as a result of unusual reaction to sunlight, by patient history or physician observation
4. Oral ulcers		Oral or nasopharyngeal ulceration, usually painless, observed by a physician
5. Arthritis		Nonerosive arthritis involving 2 or more peripheral joints, characterized by tenderness, swelling, or effusion
6. Serositis	a)	Pleuritis—convincing history of pleuritic pain or rub heard by a physician or evidence of pleural effusion *OR*
	b)	Pericarditis—documented by ECG or rub or evidence of pericardial effusion
7. Renal disorder	a)	Persistent proteinuria greater than 0.5 grams per day or greater than 3+ if quantitation not peformed *OR*
	b)	Cellular casts—may be red cell, hemoglobin, granular, tubular, or mixed
8. Neurologic disorder	a)	Seizures—in the absence of offending drugs or known metabolic derangements; e.g., uremia, ketoacidosis, or electrolyte imbalance *OR*
	b)	Psychosis—in the absence of offending drugs or known metabolic derangements, e.g., uremia, ketoacidosis, or electrolyte imbalance
9. Hematologic disorder	a)	Hemolytic anemia—with reticulocytosis *OR*
	b)	Leukopenia—less than 4,000/mm^3 total on 2 or more occasions *OR*
	c)	Lymphopenia—less than 1,500/mm^3 on 2 or more occasions *OR*
	d)	Thrombocytopenia—less than 100,000/mm^3 in the absence of offending drugs
10. Immunologic disorder	a)	Positive LE cell preparation *OR*
	b)	Anti-DNA: antibody to native DNA in abnormal titer *OR*
	c)	Anti-Sm: presence of antibody to Sm nuclear antigen *OR*
	d)	False positive serologic test for syphilis known to be positive for at least 6 months and confirmed by *Treponema pallidum* immobilization or fluorescent treponemal antibody absorption test
11. Antinuclear antibody		An abnormal titer of antinuclear antibody by immunofluorescence or an equivalent assay at any point in time and in the absence of drugs known to be associated with "drug-induced lupus" syndrome

Usually, morning stiffness is minimal. The pain is many times out of proportion to the physical findings. The arthritis of systemic lupus is almost always non-deforming and non-erosive. Occasionally patients develop ulnar deviation, soft tissue laxity, flexion contractures and swan neck deformities. Synovial effusions are characteristically small, transudative and non-inflammatory. Non-steroidal anti-inflammatory agents remain first line treatment in patients with normal renal function. If muscle weakness is a primary complaint, then inflammatory muscle disease (myositis) should be considered, and its diagnosis should be vigorously pursued with careful strength testing, serum enzymes (creatine kinase and aldolase), electromyography, and biopsy if indicated. Avascular necrosis (AVN) is a potentially disabling complication of lupus precipitated both by lupus and by steroids. Patients with vasculitis and Raynaud's phenomenon are at increased risk for AVN. Often bilateral, AVN occurs most commonly in the femoral head, humoral head, tibial plateau and the navicular bone. Destruction of bone results from interruption of its vascular supply. In weight-bearing bones, collapse of bone can be rapid. Avoidance of weight bearing is usually of only temporary benefit, and most patients require total joint replacement or fusion to control pain and to maintain function.

Cutaneous manifestations occur in up to 80 percent of patients and form the basis for subsets of discoid lupus (DLE) and subacute cutaneous lupus erythematosus (SCLE) (Table 2).[2] Although many of these lesions are non-scarring and resolve completely with appropriate therapy, the importance of treating skin lesions in the eyes of the patient is usually critical. Photosensitivity from primarily UVB radiation emitted not only from solar radiation but also fluorescent lighting is well recognized to trigger disease activity by a mechanism which is still unclear. Therapy is primarily avoidance. Susceptible patients should be advised to use high block sunscreen at all times. It has also been shown that filtering UVB light will effectively decrease photosensitivity.[3]

Table 2

A Classification of the Mucocutaneous Lesions of Lupus Erthematosus (LE)

- I. LE-specific histologic pattern
  - A. Chronic cutaneous LE (CCLE)
    - 1. Discoid LE (widespread vs localized)
    - 2. Hypertrophic/verrucous LE
    - 3. Palmar/plantar LE
    - 4. Oral DLE
  - B. Subacute cutaneous LE (SCLE)
    - 1. Annular
    - 2. Papulosquamous
    - 3. Neonatal LE
    - 4. C2-deficient LE-like syndrome
  - C. Acute cutaneous LE (ACLE)
    - 1. Malar erythema
    - 2. Photosensitivity dermatitis
    - 3. Generalized erythema
    - 4. Bullous LE
- II. LE-nonspecific mucocutaneous lesions
  - A. LE panniculitis (may often be classified as CCLE)
  - B. Urticarial lesions
  - C. Vasculitis
  - D. Livedo reticularis
  - E. Oral erosions
  - F Non-scarring alopecia
  - G. Associated mucocutaneous problems
    - 1. Mucinous infiltration
    - 2. Porphyrias
    - 3. Lichen planus
    - 4. Psoriasis
    - 5. Sjögren's syndrome
    - 6. Squamous cell carcinoma

A malar ("butterfly") rash occurring in approximately 50 percent of patients can be associated with photosensitivity. This rash usually waxes and wanes and may be the first sign of lupus involvement. Active rash may be worsened by application of the topical alcohol found in many sun screens.

Discoid lupus erythematosus may be an isolated finding or associated with SLE.[4] These lesions are individual circular erythematous plaques covered by scale and extending into dilated hair follicles. There may be associated central scarring with atrophy. The periphery of the lesion is usually erythematous, sharp, irregular, and active inflammation may be present requiring differentiation from psoriasis. After resolution, there may be depressed scars, telangiectasias and depigmentation. Approximately 10 percent of patients with discoid lupus develop systemic lupus.

Subacute cutaneous lupus erythematosus (SCLE) is recognized as an entity distinct from both discoid and systemic lupus.[5] This photosensitive lesion consists of scaly papules and is classified as either a psoriasiform or annular form (erythema annulare centrifugum). This rash usually involves the shoulders, extensor surfaces of the forearms, neck, torso and backs of the hands with sparing of the face. Characteristically, there are no permanent pigment changes or scarring, although there may be associated telangiectasias. The pathology is similar to discoid lupus with minimal basement membrane thickening, epidermal atrophy and hyperkeratosis but without extension into hair follicles. Approximately 50 percent of SCLE patients will have mild SLE and 10 percent of patients with SLE will have SCLE. Also, 50 percent of SCLE patients will have positive ANAs and 60 percent will have a positive SSA; the anti-Smith (Sm) is usually negative.

The lupus band test involves direct immunofluorescence of skin biopsies detecting IgG, IgM or complement at the dermal epidermal junction.[6] Using involved skin, it is a sensitive but not very specific test for SLE and cutaneous lupus. However, a positive lupus band test of uninvolved, unexposed skin will occur in approximately 50 percent of patients with systemic lupus but only rarely in isolated cutaneous forms. After a period of enthusiasm for the lupus band test, its use and the enthusiasm for it as a diagnostic test has waned.

Alopecia can occur in 70 percent of patients and may be an isolated finding without other skin lesions. Affected areas include not only the scalp but also the eyebrows, eyelashes and body hair. It can be permanent if there is scarring. Non-scarring alopecia usually results either from premature hair loss associated with stress including illness (telogen effluvium), or "lupus hair" which can be associated with a flare and is most commonly recognized as thinning of hair with split ends, usually affecting the frontal hairline first. Return of hair growth may lag behind other signs of disease improvement. Hair loss is also noted in hypothyroid patients.

Mucous membrane involvement is often painless. Therefore, a thorough oral exam is warranted with every examination. These lesions are usually either discoid or ulcerative and can involve the lips, hard and soft palate, buccal mucosa and rarely the tongue.

Multiple vascular lesions also contribute to the great variability of lupus. Telangiectasias and Raynaud's phenomenon are infrequently present, and the latter was an original classification criterion which was dropped on revision. Nailbed changes consisting of dilated tortuous capillary loops with increased subcapillary venous plexus occur in one half of systemic lupus patients. Livedo reticularis is a non-specific rash, felt to be secondary to vasospasm of the dermal ascending arterioles in the arms, legs and torso. When prolonged, this can progress to livedo (lupus) vasculitis consisting of macules, nodules and ulcerations. Urticaria is mediated by either IgE in which the lesions are of relatively short duration (four to six hours) resulting in no permanent skin changes or by vasculitis causing fibrinoid necrosis of post capillary venules lasting over 24 hours and resulting in hyperpigmentation. Purpura secondary to post venular capillary vasculitis also occurs and must be differentiated from thrombotic thrombocytopenia. Arterial vasculitis of the toes, fingertips, nailfolds, forearms and ankles may lead to ulcerative lesions. Biopsy of these lesions usually reveals a fibrinoid necrosis and thrombosis and not a leukocytoclastic lesion. Severity of these lesions frequently parallels overall lupus activity. Non-ulcerated lesions are the preferred biopsy sites.

Pulmonary lesions occurring in SLE patients can involve the pleura, parenchyma, diaphragm and vasculature. There is usually no clear association with serologic parameters. The most common pulmonary symptoms are pleuritic pain, coughing and dyspnea. Pleurisy classically involves chest pain on breathing and a differential diagnosis includes costochondritis, pulmonary embolism and infection. The most common sign of pleurisy is a pleural friction rub, but this is not essential for diagnosis. Fifty percent will have a small to moderate pleural effusion. The pleural fluid is usually clear with a normal glucose, low protein and a predominantly lymphocytic cell count of less than 5,000 per cubic millimeter (non-inflammatory). Pulmonary edema usually results secondary to renal disease although it can be iatrogenic from administration of steroids. Acute pneumonitis is fortunately an uncommon complication of pulmonary lupus. Its presentation is similar to pulmonary hemorrhage with fever, cough, hemoptysis, pleurisy, dyspnea and alveolar changes on x-ray. Even with aggressive treatment with high dose steroids, the short term prognosis is poor with a 50 percent mortality. A more chronic fibrotic lupus pneumonitis, commonly known as shrinking lung, presents with increasing dyspnea, diffuse interstitial infiltrates, restrictive pulmonary function testing and alveolitis.

Often asymptomatic, cardiac involvement is common. Pericardial disease has been recorded in up to 80 percent of patients from autopsy studies. Pericardial effusion is either a fibrinous exudate or a transudate. Rarely, pericardial disease progresses to large effusions or constrictive pericarditis. Myocarditis can also occur with congestive heart failure in the late stages but a diagnostic clue in the earlier stages will be a resting tachycardia disproportionate to the body temperature. A myocardial biopsy will reveal primarily a mononuclear infiltrate. Valvular cardiac lesions fall into two broad categories: verrucous or Libman-Sacks and non-Libman Sacks lesions. The former is usually not involved in hemodynamically significant lesions but may be associated with bacterial endocarditis. Conduction defects are usually first degree heart blocks. More serious conduction defects are usually associated with pericarditis, myocarditis or neonatal lupus. Coronary artery disease is not more prevalent in lupus patients overall but may be increased in a subset on long-term steroids. Hypertension, hypercholesterolemia and presence of antiphospholipid antibody are risk factors. Vasculitis in lupus involving the coronary arteries is exceedingly rare.

Hematologic abnormalities reflecting overall disease activity are common and should be screened for on a regular basis. A normochromic, normocytic anemia associated with decreased erythropoietin, a decreased reticulocyte count and decreased serum iron with adequate bone marrow iron stores occurs in up to fifty per cent of patients. A direct Coombs positive anemia associated with an IgG warm antibody can also occur. When leukopenia is present in the absence of other significant disease, there is usually no increased predisposition to infection. On the other hand, leukocytosis may represent infection or administration of steroids. Lymphopenia with an absolute count less than 1500 cells/mm correlates with active disease and has been shown to be secondary to an IgM cold reactive antibody. Thrombocytopenia with platelet counts less than 150,000 occurs in up to 50 percent of patients; however, severe thrombocytopenia with platelet counts less than 50,000 occurs in less than 10 percent of patients. Many patients with Evans Syndrome (autoimmune thrombocytopenia and hemolytic anemia) will have SLE. Adenopathy in the cervical, axillary and inguinal areas is a common manifestation and an infectious etiology should be excluded. Lymph nodes containing hematoxylin bodies are a morphologic trademark of lupus.

A basic awareness of the variety of renal diseases affecting lupus patients is important because, after infection, renal insufficiency is the second most common cause of mortality in SLE patients and the most common cause of mortality directly related to the underlying disease, rather than to its therapy. Almost all patients with sustained SLE would demonstrate pathologic changes on immunofluorescence and electron microscopy, although there may be no overt manifestations except proteinuria. A sudden change in the amount of proteinuria or urine sediment should prompt further evaluation to include at least a 24-hour urine for protein and creatinine clearance. In our practice, an urinalysis is obtained on every visit and 24-hour urines are included as part of new patient evaluations and at regular intervals as clinically indicated. Active intrinsic renal disease may be correlated with hypocomplementemia, increased double stranded DNA antibody titers and circulating immune complexes.

There are four well-recognized histopathological subgroups of glomerulonephritis (GN) in SLE, the glomerulus being the major site of deposition of immune complexes. Mesangial lesions occur in up to 25 percent of patients and are demonstrable by electronmicroscopy and immunofluorescence. Usually only mild hematuria or proteinuria is present on routine urinalysis. No treatment except monitoring of renal function is indicated. Membranous glomerulonephritis occurs in 15 percent of SLE patients; clinically there is proteinuria, microscopic hematuria and an increased incidence of hypertension. The histopathology includes glomerular basement membrane thickening with immunoglobulin and complement deposition. A slowly progressive renal insufficiency and nephrotic syndrome may occur but progression to diffuse proliferative glomerulonephritis (DPGN) is rare. Focal proliferative lesions occur in 15 percent of patients. Some of these patients have proteinuria and hematuria but true nephrotic syndrome is rare. By definition, less than 50 percent of glomeruli are involved with segmental and mesangial proliferation. This lesion can progress to diffuse proliferative glomerulonephritis, the most serious glomerular pathology which occurs at some time in approximately 40 percent of patients with lupus nephritis. All of these patients have proteinuria and hematuria and the majority develop nephrotic syndrome. The histopathology reveals cresentric changes involving greater than 50 percent of glomeruli tufts. There is also hypercellularity of mesangial and endothelial cells with a mononuclear and polymorphonuclear infiltrate and thrombi in the capillary lumen. If remission is achieved, this lesion may regress to mesangial glomerulonephritis. The usefulness of a renal biopsy is a topic of continued debate. However, the advantages of a biopsy include making a pathologic diagnosis, predicting subsequent prognosis, justifying treatment with cytoxic drugs and following treatment after therapy has been instituted; a biopsy may also be important in protecting the patient from major immunosuppresive therapy.

Gastrointestinal symptoms are rarely an isolated finding. Dysphagia is often associated with Raynaud's phenomenon. Usually no etiology is determined, but treatable entities such as esophageal reflux and peptic ulcer should be searched for. Peptic ulcer disease may be a result of therapy with steroids and non-steroidal agents. Mesenteric vasculitis involving the small and medium arteries can occur, constituting a medical emergency. Pancreatitis is also associated with multiorgan active disease or can be secondary to steroids or azathioprine. Hepatomegaly with abnormal liver function tests is often seen with active disease.

Neuropsychiatric disease in lupus, although well-recognized, is not particularly well-characterized. As with other manifestations of lupus, one should always be careful not to mistakenly interpret infection as primary disease activity. For example, headaches are usually musculoskeletal or migraine in origin. One should become suspicious when a patient has a new onset of severe headache, seizures, a change in personality, overt psychosis or diplopia. Functional diseases such as depression, cyclothymia or anxiety are frequent in patients with lupus. Organic brain disease with psychosis requires a delirium and dementia work-up. Lupus should be included in the differential of cranial and peripheral nerve neuropathies including mononeuritis multiplex. Transverse myelitis presenting with acute lower extremity weakness, sensory loss and sphincter relaxation is a medical emergency requiring immediate therapy.

ANTIBODIES

When properly utilized, autoantibodies aid us in diagnosing and monitoring disease; however, misinterpretation of these tests occurs. This causes unnecessary work-up for patients with isolated ANAs who have no other evidence of autoimmune disease and also can delay diagnosis in the five percent of patients who have true ANA negative SLE. Individual ANA results are a poor prognosticator, as ANAs can be found in other diseases including DLE, SCLE, and drug-induced LE, all of which have a benign outlook compared to SLE. The LE cell has been replaced as a clinical tool by other autoantibodies with improved sensitivity and specificity. The mechanism of LE cell formation provides a basis for understanding autoimmune disease mechanisms: autoantibodies react to histones from damaged cell nuclei promoting a release of chemotactic factors to form rosettes with phagocytic cells, which ingest the nuclei forming the characteristic LE cell. Hematoxylin bodies are free nuclei.

Antinuclear antibodies provide a useful screening tool, since the prevalence in lupus approaches 95 percent. It is important to know the substrate used in this indirect immunofluorescent assay since more sensitive, higher titers are usually obtained with HEp-2 substrate (derived from rapidly dividing human laryngeal carcinoma cells) compared to the more traditional animal organ substrate (derived from fixed, lower-vertebrate, highly differentiated cells). Four different patterns of ANAs are commonly recognized: homogenous or diffuse pattern results from antibodies to uniformly distributed nuclear substances. This is the most sensitive but least specific ANA for lupus and is present in a variety of other diseases, including rheumatoid arthritis and chronic active hepatitis. Membranous patterns (also known as peripheral or rim) have clinical significance as being associated with lupus renal disease and are positively correlated with anti-DNA antibody titers. The speckled pattern can be seen in lupus, rheumatoid arthritis, systemic sclerosis and Sjogren's syndrome and is related to extractable nuclear antigens. The nucleolar pattern is the least common and is usually seen with other autoantibodies. The ANA test is useful in early diagnosis; anti-DNA antibody titers are useful in detecting and managing renal involvement, other ANA patterns are less useful in management. Titers and patterns are an insensitive way to monitor disease activity.

It is important to differentiate antibodies to DNA as either single stranded or double stranded. The former is non-specific for SLE and can be induced by a number of drugs. The latter is specific enough for SLE to be included as a separate diagnostic criteria independent of ANA and is utilized by many clinicians as an indicator of renal disease and overall disease activity.

There are four commonly recognized antibodies to extractable nuclear antigens (ENA). These antibodies react to saline-soluble non-histone nuclear proteins. Antiribosomal nuclear proteins (RNP) might also be designated as U-1 RNP since this antibody binds the uridine-rich U-1 RNA component of nucleoprotein. It has a frequency approaching 40 to 50 percent in SLE patients and may be associated in those who exhibit symptoms of mild disease, myositis or Raynaud's phenomenon. Anti-Smith (Sm) antibodies have a frequency of approximately 30 percent and there has been some association with isolated CNS disease, less severe forms of arthritis and ANA negative lupus. Ro and La antibodies are also designated SSA and SSB, respectively. Anti-Ro has a frequency approaching 40 percent in SLE patients and may also be found in SCLE, neonatal lupus, Sjogren's Syndrome and ANA negative lupus. Anti-La antibodies are also found in approximately 15 percent of SLE patients and the majority of patients with Sjogren's syndrome. Almost all patients who have the La antibody also have the Ro antibody present, but the reverse is not true. Also, when the Ro antibody is found alone, there is a much higher incidence of nephritis than when Ro and La are associated together. The reasonable approach to a patient suspected of having SLE would be to first obtain an ANA titer and pattern. Depending on the results and clinical suspicion, then antibodies to double stranded DNA, ENAs, and cytoplasmic autoantibodies can be obtained. This discussion is by no means exhaustive as there are numerous other autoantibodies of clinical significance in SLE, including the antiphospholipid antibodies, which are associated with thromboembolic disease.

TREATMENT MODALITIES

A major cornerstone of therapy demands that the severity of disease dictates the acceptable risks of treatment. Both over-treatment and under-treatment of SLE should be avoided. The treatment of severe, life-threatening SLE is becoming more efficacious with the use of various cytotoxic agents. Although many of these drugs should be initiated by specialists, primary care physicians should familiarize themselves with their indications and side effects. A major risk of inducing immunosuppression with cytotoxic agents is infection, the leading cause of mortality in most series of lupus patients.

A fundamental principle of lupus management is to detect activity early, treat immediately, and begin to reduce dosage as soon as the patient returns either to the old or a new baseline. Each lupus patient may detect the return of disease activity by a slightly different constellation of signs and symptoms; careful education of the patient to watch closely for the earliest signs of activity and to consult immediately regarding a change in therapy both improves long-term outcome and gives the patient a role in their disease management. A partnership of understanding with the patient is the key to successful management.

The use of steroids is historically the most significant advancement in the treatment of SLE and has remained clinically useful. Prednisone and prednisolone are inexpensive oral medications with reasonable half-lives. Dexamethasone is avoided because of a prolonged half-life. The amount, frequency, duration and type of steroid administered is dictated by the severity of the disease. For example, systemic involvement threatening major organs (e.g. kidneys) may be treated with intravenous pulse doses of methylprednisolone and then changed over to oral medications. Other major organ involvement can be treated with high oral split dosing for a short period of time and then consolidated into a single daily dose. Likewise, stable disease is often successfully treated with steroids on an every-other-day regimen. Common therapeutic pitfalls result from continued administration of steroids in excess of disease activity and, in contrast, from rapid tapering of steroids resulting in repeated flares of disease activity which can be more severe than the original presentation. It is common for lupus patients to note articular, musculoskeletal aches, pains and stiffness on lowering steroid dose when they have been pain-free on higher doses. This musculoskeletal syndrome occurs in healthy persons coming off of steroids and should not be interpreted as disease activity requiring dose increase. Other modalities, including non-steroidals and antimalarials, should be used to permit continued reduction in steroids. Decreasing steroids must be individualized for each case. However, it is accepted that after disease activity is under control, treatment with the least amount of steroid necessary to control disease activity is warranted. When doses of prednisone exceed 40 mg a day, the dose can be decreased in decrements of approximately 10 to 15 mg per week. Between 20 mg and 40 mg, the decrease should be by 5-10 mg per week. At lesser doses, the decrease should be on an individual basis. Below 10 mg per day, reductions of 1 mg per week are usually best tolerated. The side effects of steroids range from cosmetic to life-threatening and include ecchymosis, skin atrophy (especially with topical fluorinated steroids), gastrointestinal ulcerations, pancreatitis, glucose intolerance, cushingoid habitus, cataracts, hypertension, coronary artery disease, osteoporosis, avascular necrosis and opportunistic infections.

ANTI-MALARIALS

Hydroxychloroquine and chloroquine are generally recognized to have steroid sparing effects for moderate disease activities, including cutaneous and articular manifestations.[8] Their onset of action is slow and a full therapeutic effect may not be achieved for up to six months. The main side effect is a dose-related retinal toxicity (macular degeneration) requiring semi-annual ophthalmologic examinations, including visual field testing with two-point, red dot discrimination the most sensitive detector. Myopathy, leukopenia and cardiomyopathy have also been reported.

CYTOXIC AGENTS

Azathioprine and cyclophosphamide are the two most commonly used immunosuppressive agents in SLE. Azathioprine is the first choice as a steroid-sparing agent in a patient with major organ involvement. It is used many times as steroid sparing in severe discoid lupus resistant to anti-malarial therapy and also in a patient with glomerulonephritis with minimal scarring. Side effects include infection, leukopenia, hepatotoxicity and rarely lymphoproliferative disease. A split dosing (bid) schedule may alleviate the gastrointestinal discomfort that some patients experience. Monitoring should include complete blood counts and liver function tests. Cyclophosphamide administered by intermittent intravenous bolus in conjunction with oral corticosteroids is the most efficacious treatment for diffuse proliferative glomerulonephritis secondary to lupus.[9] The major toxicities include severe infection secondary to leukopenia, hemorrhagic cystitis (much less frequently than with oral cyclophosphamide), nausea, vomiting, gonadal failure with increasing age, and the future potential for malignancy.

A reasonable approach to initiating medical treatment of lupus is to classify the illness as end-organ or life threatening or not. If life-threatening, treatment with high dose immunosuppressive agents is usually indicated. Examples include transverse myelitis, mesenteric vasculitis and severe lupus nephritis (with greater than 50 percent crescents on renal biopsy). An example of non-life threatening lupus is serositis presenting as pleurisy or pericarditis, which is often controlled with non-steroidal anti-inflammatory agents or aspirin. If not effective, low dose prednisone (15 mg) may induce remission with subsequent control by other agents. Use of long term or high dose steroids to control these entities often violates the motto, do no harm.

SUMMARY

The recognition and treatment of SLE requires an approach similar to other chronic diseases. A thorough initial evaluation with regular monitoring of outwardly silent manifestations (e.g. renal) minimizes potentially devastating complications. For disease which does not threaten the patient's life or carry the threat of end-organ failure, treatment analogous to non-lupus patients is usually appropriate, including minimization of steroids. The widening use of cytotoxic agents promises to continue to decrease the mortality from SLE. These agents must be used sparingly and in consultation with a rheumatologist to reduce the incidence of infection, malignancy and sterility. ❐

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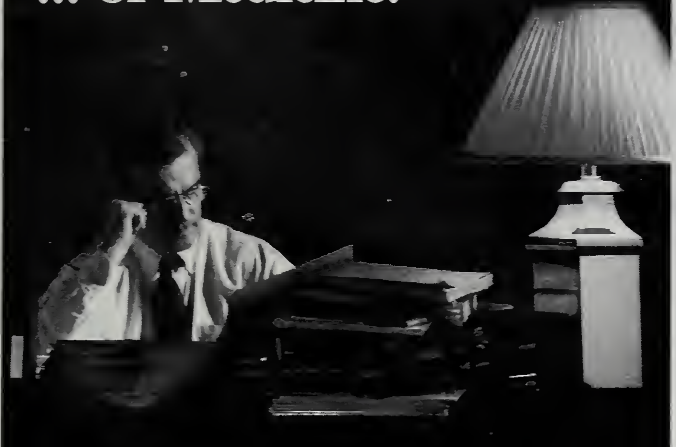

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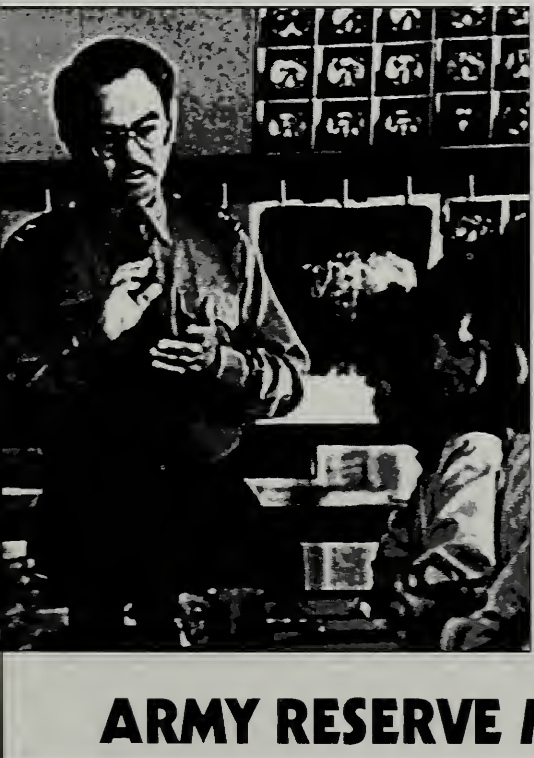

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DIAGNOSIS AND MANAGEMENT OF COMMON TENDINITIS AND BURSITIS SYNDROMES*

RICHARD A. HOPPMANN, M. D.**

Pain around a joint may not be arthritis but instead may be the result of an inflamed tendon or bursa. The correct diagnosis can usually be made with a thorough history emphasizing occupational and avocational activities, and an examination that localizes the symptoms to the tendon or bursa in question. Appropriate management can result in rapid improvement and a very grateful patient. This article will review several common tendinitis and bursitis syndromes with an emphasis on diagnosis and management. Septic bursitis will be briefly considered as well.

HISTORY

Pain, often the overwhelming and sometimes the only symptom which the patient with tendinitis or bursitis reports, is commonly localized around a single joint, ruling against a systemic rheumatologic process. Because the etiology is often excessive repetitive movement, it is essential to obtain a detailed history of job activities and recreational activities, including participation in sports, performing music, or hobbies such as woodworking. Analysis of occupational injuries and, more recently, performing arts injuries,[1] have emphasized the importance of duration and intensity of repetitive actions in producing injuries. The history should include any recent changes in either of these components and their temporal association with the onset of symptoms. Specifics of the repetitive movement should be sought, including observing the patient performing or simulating the activity.

PHYSICAL EXAM

Signs of inflammation such as erythema and warmth are not commonly present except in the case of septic bursitis. An area of point tenderness can usually be identified directly over the tendon or bursa involved. As will be discussed, specific maneuvers can be performed to further substantiate the involvement of a particular tendon or bursa.

TRIGGER FINGER

The flexor apparatus of the finger includes the flexor muscle-tendon unit, the surrounding tendon sheath, and a fibro-osseous pulley system. This system allows smooth biomechanical action without bowstringing of the tendon. Excessive repetitive motion of the finger can result in nodule formation and/or stenosis of the tendon sheath. The patient with trigger finger reports difficulty extending the finger from a flexed position. Problems with extension may progress from mild resistance to a locking of the finger with flexion. Rest and non-steroidal anti-inflammatory medication may allow adequate reduction in swelling of the flexor apparatus and a return to normal biomechanical function. Although somewhat controversial, corticosteroid and anesthetic injection along the nodule and tendon sheath followed by rest may give sustained relief. If these measures fail or if the finger becomes locked in flexion, surgical release would be indicated.

DE QUERVAIN'S TENOSYNOVITIS

Radial wrist pain, especially if associated with repetitive motion involving the thumb and ulnar deviation of the wrist, may repre-

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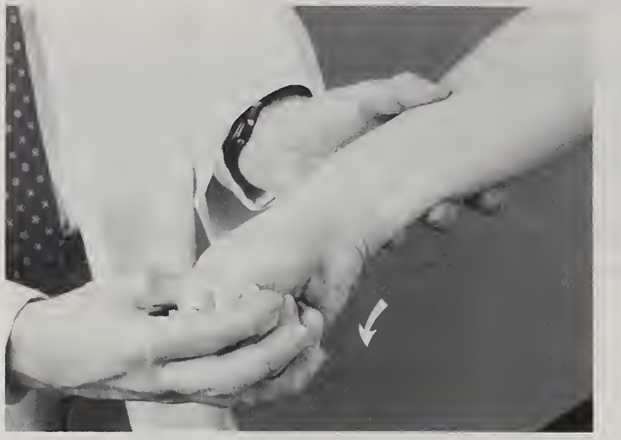

Figure 1. Finkelstein's sign: pain over the radial styloid when the fist is deviated in an ulnar direction. Reproduced from Reference 2 with permission from the publisher.

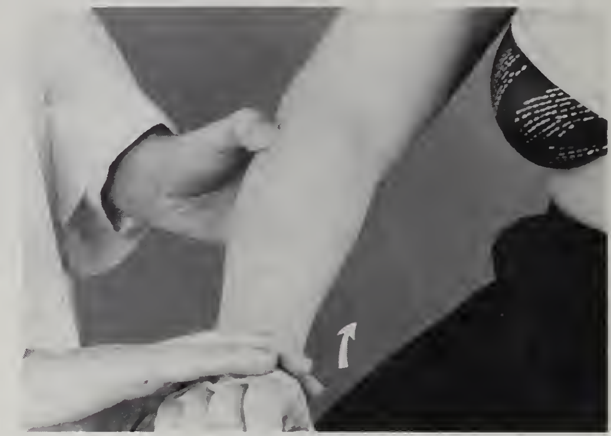

Figure 2. Lateral epicondylitis: pain at the lateral epicondyle of the elbow on resisted wrist extension. Reproduced from Reference 2 with permission of the publisher.

sent de Quervain's tenosynovitis. Pain is felt along the radial styloid where the abductor pollicus longus and the extensor pollicus brevis cross this bony prominence. Movements such as squeezing and turning, as in using a screwdriver or bringing the thumb under the palm to reach a distant key while playing the piano, place added stress on the tendon and can result in tenosynovitis. To help confirm the diagnosis, one can perform Finkelstein's maneuver by asking the patient to flex the thumb into the palm and deviating the wrist in an ulnar direction (Figure 1). It should be noted that this maneuver, in some patients, can produce pain in the uninvolved wrist. Both wrists should be tested and only if there is significantly greater pain elicited on the suspected side should the test be considered positive. In addition, the examiner should palpate for tenderness along the course of the tendon and test for pain on extension of the thumb against resistance. Conservative management consists of rest, splinting, and anti-inflammatory medication. A corticosteroid preparation and an anesthetic can be injected along the tendon sheath. Surgical decompression of the first dorsal compartment may be required if the process becomes chronic or refractory to more conservative management.

LATERAL EPICONDYLITIS

Lateral elbow pain where the wrist and finger extensors originate, especially the extensor carpi radialis brevis, suggest lateral epicondylitis or "tennis elbow." Pain is felt over the lateral epicondyle to palpation and on resisted wrist extension (Figure 2). Most patients who develop lateral epicondylitis do not play tennis, but perform activities that require frequent use of the wrist extensors, such as mechanics.

Treatment consists of rest, ice, nonsteroidal anti-inflammatory medication and steroid injection. "Tennis elbow" bands placed just distal to the elbow may be of some benefit. Exercises to develop the wrist extensors should be instituted once the pain resolves to prevent recurrence. If the above measures fail, surgery should be considered.

SHOULDER PAIN

Certain occupations such as paper hanging, waiting on tables, and recreational activities such as tennis and swimming require considerable over the head movement and place the shoulder under considerable stress. This can result in one of several tendinitis/bursitis syndromes of the shoulder. These include subacromial/subdeltoid bursitis, impingement syndrome, and biceps tendinitis. It is not uncommon for two of these entities to occur concurrently and with a rotator cuff tear. Because of the complexity of the shoulder, an appreciation of the anatomy (Figure 3) is necessary in examining the patient with shoulder pain.

The subacromial bursa separates the rotator

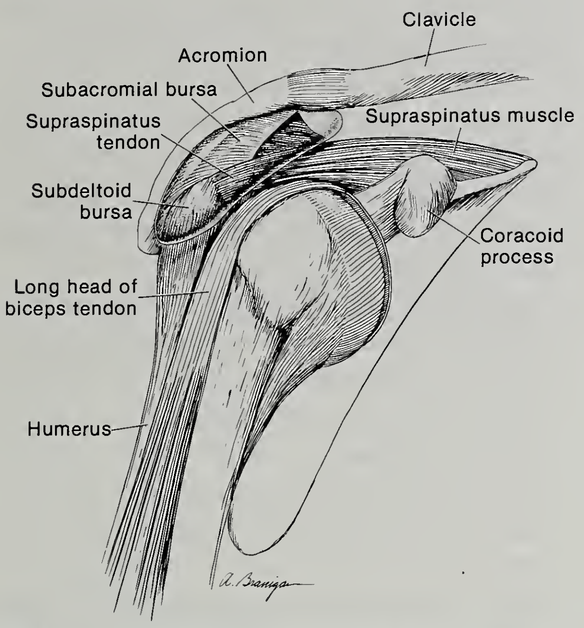

Figure 3. Shoulder joint showing relationship of structures involved in tendinitis/bursiting of the shoulder. Reproduced from Reference 2 with permission from the publisher.

cuff muscles of the shoulder (supraspinatus, infraspinatus, teres minor, and subscapularis muscles) from the overlying acromion, teres major and deltoid muscles. The subacromial bursa may extend down into the deltoid region as a separate bursa; the subdeltoid bursa may or may not be a discrete entity. Subacromial bursitis is generally secondary to a rotator cuff injury or tendinitis. Pain is noted on abduction at the shoulder.

Impingement syndrome occurs when the rotator cuff, especially an inflamed supraspinatus tendon, is pinched between the humerus and the coracoacromial arch. A "painful arc" of abduction from 60° to 120° is found on exam; in addition, tenderness at the point of insertion over the greater tuberosity of the humerus may be detected.

Finally, shoulder pain may be due to tendinitis of the long head of the biceps muscle, which originates on the supraglenoid tubercle of the scapula, passes through the glenoid joint then extends down the anterior humerus along the biceps groove. The biceps tendon can be palpated for tenderness along the anterior humerus. In addition to assisting with abduction and flexion at the shoulder, the biceps muscle also flexes and supinates the forearm. Pain on resisted supination (Figure 4) at the biceps tendon is called Yergason's sign and helps confirm the diagnosis of biceps tendinitis.

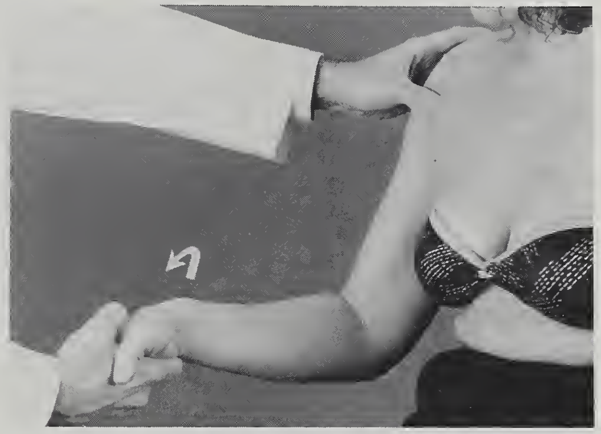

Figure 4. Yergason's sign: pain at the biceps tendon on resisted supination. Reproduced from Reference 2 with permission from the publisher.

All three of these shoulder problems should be treated similarly. Rest, heat, ice, non-steroidal medication can be used, and if these measures fail, steroid injection should be considered. Steroid injection should be limited to three injections and no closer than six weeks apart. Range of motion exercises should be instituted. Although generally considered a distinct entity, capsulitis or "frozen shoulder," in some cases, is felt to be secondary to extension of inflammation of adjacent tendon structures.[3] Anti-inflammatory medication and exercises may help preserve range of motion. In some cases, surgery may be indicated.

TROCHANTERIC BURSITIS

Hip pain that prevents the patient from sleeping on the affected side may be due to trochanteric bursitis. This bursa lies between the tendon of the gluteus maximus and the posterolateral prominence of the greater trochanter of the femur. X-rays of the hip are generally normal, as is range of motion of the hip. Tenderness to palpation is felt over the greater trochanter of the femur. Treatment modalities include rest, ice, stretching exercises, non-steroidal anti-inflammatory medication and steroid injection.

ANSERINE BURSITIS

The anserine bursa is located approximately two inches below the medial joint line of the knee where the sartorius, gracilis, and semitendinosus muscles insert into the tibia. Bursitis at this point occurs predominantly in overweight females at the time they start to develop osteoarthritis of the knees.[4] Tenderness on palpation is limited to the area of the anserine bursa. Ice and non-steroidal medication may be of some benefit, and steroid injection may be needed if these measures fail.

ACHILLES TENDINITIS

Achilles tendinitis may be part of a systemic inflammatory disease such as Reiter's Syndrome, or simply a localized problem due to infrastructural tendon tears. Patients report tightness and pain in the heel region when first getting up in the morning that improves with activity. Tenderness is felt along the achilles tendon and swelling may be noted. Therapy consists of rest, heel lifts, stretching, ice, and non-steroidal anti-inflammatory medications. In contrast to the other entities discussed in this review, achilles tendinitis should not be injected with steroids due to the risk of tendon rupture. If conservative measures fail, the peritendonous region can be injected but should then be immobilized to prevent excessive stress to the tendon. If these measures fail, surgery may be considered.

GENERAL TREATMENT CONSIDERATIONS

Every attempt should be made to identify the cause of the tendinitis/bursitis. Identifying a particular repetitive action that precipitated the injury offers an opportunity to modify that behavior to facilitate recovery and hopefully to prevent recurrence. Rest is the cornerstone of initial management – either absolute rest from the incriminating activity or relative rest in the form of decreasing the duration and/or intensity of the activity. Ice and heat are often helpful as is short term use of non-steroidal medications. Occupational and physical therapy can complement the management of these syndromes with splinting, exercises, and other treatment modalities such as ultrasound. In most cases, steroid injection should be reserved for failure of the more conservative approaches. Prior to injecting, several complications should be discussed with the patient. These include the risk of infection, tendon rupture, tissue atrophy, and hypopigmentation of the skin.

Guidelines for injection include: inject along the tendon and tendon sheath and not directly into a tendon, inject in the area where you want the medication to work and do not continue to inject as you withdraw the needle, thus leaving a tract of long acting steroid to the skin surface; always insti tute a period of rest after the injection, multiple injections into an area should be discouraged, inject a small quantity of long-acting steroid preparation in superficial areas such as the lateral epicondyle.

Mixture of a small quantity of an anesthetic such as xylocaine with the steroid preparation will ensure a more uniform distribution of the preparation and helps confirm the diagnosis by giving almost immediate relief if appropriately placed.

SEPTIC BURSITIS

The olecranon bursa and the prepatellar bursa are the most common sites of septic bursitis.[5] Any time there is a question of septic bursitis, the bursa should be aspirated and the fluid evaluated for white count, gram stain, culture, and crystal analysis. Staph aureus is by far the most common organism in septic bursitis and therapy to cover this organism should be instituted. The exact duration of therapy has not been determined but should be for at least five days after bursal fluid becomes culture sterile. It has been reported that approximately four days are required to sterilize bursal fluid from non-immunocompromised patients and approximately 11 days in immunocompromised patients.[6] Repeated trauma to the elbow or knee contribute to both septic and non-septic bursitis and, when possible, padding should be used to prevent recurrence. ❒

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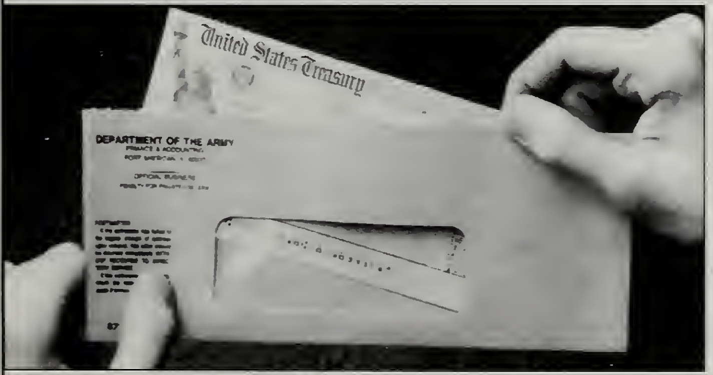

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RAYNAUD'S PHENOMENON AND CONNECTIVE TISSUE DISEASES*

PHILIP A. WALLER, M. D.
E. CARWILE LEROY, M. D.**

Since 1862, when Maurice Raynaud first described the classic tricolor changes and precipitating factors of the phenomenon bearing his name, the number of conditions associated with Raynaud's phenomenon has greatly expanded. Pathophysiology, clinical manifestations, associated diseases and treatment continue to be refined and debated.

Raynaud's phenomenon is a clinical challenge to many physicians; it may be idiopathic or primary when there is no evidence for an associated condition or secondary to a specific disease or inciting factor. Primary Raynaud's patients account for approximately 70 percent of the total. Rheumatological diseases associated with Raynaud's include scleroderma (both diffuse and limited), undifferentiated connective tissue disease, systemic lupus erythematosus, dermatomyositis/polymyositis, Sjogren's syndrome, and systemic vasculitic syndromes, among others. Raynaud's phenomenon, presenting as idiopathic, may in fact be the initial manifestation of a connective tissue disease. Predicting which Raynaud's patients will develop systemic disease is improved by physical findings, serology and non-invasive testing (nailfold capilloroscopy).

EPIDEMIOLOGY

The prevalence of Raynaud's phenomenon in population studies is highly dependent on environmental factors, but estimates approach 10 to 20 percent. In a report of 5,246 adults in South Carolina, the incidence of Raynaud's phenomenon was 2.7 percent of male and 4.3 percent of female respondents.[1] In comparison, a study of an English population showed a prevalence of 11 percent of men and 19 percent of women. The age of onset of Raynaud's phenomenon is typically between 15-40 years. The proportion of Raynaud's subjects who show any features of connective tissue disease varies from 10 percent in population-based studies to 50 percent in highly selected referred patient groups.

The incidence of Raynaud's secondary to a connective tissue disease varies. In diffuse scleroderma, the prevalence is 90 percent and approximately 100 percent in limited scleroderma. Undifferentiated connective tissue disease, systemic lupus and Sjogrens have prevalences of approximately 80 percent, 40 percent and 30 percent, respectively.

CLINICAL MANIFESTATIONS

Raynaud's phenomenon is a classic tricolor change; normal to white to blue to red of the skin of the fingers in response to an environmental stimulus (usually cold or stress). Vasoconstriction, cyanosis and reperfusion correspond to the three color changes, respectively. The classic triphasic presentation is unusual and, typically, only one or two colors are described by patients. Raynaud's phenomenon, usually symmetrical and bilateral, can affect one or more digits and typically spares the thumb. The toes, ears, nose and tongue may also be affected. Pain and numbness are frequent complaints during the vasoconstrictive and cyanotic stages, while burning and tingling occur during the reperfusion or recovery phase.[2] Digital pitting, scarring and frank necrosis with gangrene can occur with repeated or severe episodes. Patients

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TABLE 1
RAYNAUD'S PHENOMENON:
CLASSIFICATION, ASSOCIATED CONDITIONS AND CAUSES

I. Primary or idiopathic
II. Secondary

Connective Tissue Diseases
Scleroderma (limited and diffuse)
Systemic lupus erythematosus
Dermatomyositis/polymyositis
Sjogren's
Rheumatoid arthritis
Undifferentiated connective tissue disease
Vasculitides

Hypervisscosity Disorders
Multiple myeloma
Waldenstrom's macroglobulinemia
Cryoglobulinemia
Cold agglutinins
Polycythemia vera

Vascular Disorders
Thoracic outlet obstruction
Arteriosclerosis
Thromboangiitis obliterans (Buergers disease)
Thromboembolic disease

Drugs
Beta blockers
Alpha agonists
Chemotherapeutics – cisplatin, bleomycin
Oral contraceptives
Ergotamines
Cyclosporin
Nicotine
Antihistamines/decongestants
Caffeine
Methysergide

Occupational Exposure
Vibratory tool exposure – Pheumatic hammer, stone cutters, chain saw, etc.
Recreational – bowling, handball
Vinyl chloride exposure

Miscellaneous
Hypothyroidism
Neoplasia
Reflex sympathetic dystrophy
Carpal tunnel syndrome
Chronic renal failure
Primary pulmonary hypertension

with primary Raynaud's frequently have mild symptoms, no loss of pulses in palpable arteries, and few chronic complications. Associated vascular complications in primary Raynaud's may include migraine headaches, hypertension and atypical angina. Patients with secondary Raynaud's may in addition have symptoms and physical findings of the underlying condition.

Primary Raynaud's phenomenon by definition is not associated with a precipitating factor. Secondary Raynaud's has an extensive differential diagnosis: Connective tissue diseases, hematologic and hyperviscosity syndromes, occupational causes and drugs must be searched for in each patient[3,4] (see Table 1).

PATHOPHYSIOLOGY

Raynaud's phenomenon results from structural abnormalities of the vascular system. Affected arteries may be narrowed by vasospasm, anatomic vascular occlusion or both. Peripheral vasoconstriction in response to cold is physiologic and may cause symptoms in patients without disease. Raynaud's patients have a significantly reduced tolerance to cold and stress and a variety of mechanisms have been proposed.

Sympathetic innervation, catecholamines, serotonin, prostaglandins and bradykinins (and others) affect the vascular smooth muscle. Overactivity of the sympathetic nervous system or enhanced vascular response to normal sympathetic stimuli secondary to vessel wall changes may lead to vasospasm. The role of the sympathetic nervous system is illustrated in patients with Raynaud's secondary to vibratory trauma. The use of a vibratory tool in one hand causes vasoconstriction in the opposite hand which can be ameliorated by medical or surgical sympathetic nerve block. The use of sympatholytic agents and surgical sympathectomies have been used in patients with both primary and secondary Raynaud's, but these treatments are not consistently successful and initial positive responses often fade. Studies in primary Raynaud's phenomenon and scleroderma have failed to show increased plasma or urinary catecholamines consistently, suggesting that other than sympathetic mechanisms are also involved.

Alpha sympathetic receptors and local mediators may induce vasospasm in Raynaud's patients. Cold-induced vasoconstriction normally increases the sensitivity of alpha-2 receptors but not alpha-l receptors. Primary Raynaud's patients have increased levels of platelet alpha-2 receptors and an exaggerated response to alpha-2 agonists compared to controls. These findings suggest the density or sensitivity of alpha-2 receptors may be increased on the endothelial cells of the vasculature.

Serotonin (S-hydroxytryptamine) may play a role in Raynaud's phenomenon. Intraarterial 5-hydroxytryptamine decreases digital blood flow. The degree of vasoconstriction following 5-hydroxytryptamine administration is enhanced in primary Raynaud's patients compared to controls.[5] Serum and platelet levels of 5-hydroxytryptamine are reported to be increased in primary and secondary Raynaud's. Supporting this mechanism are clinical responses to ketanserin, a serotonin antagonist, which increases digital blood flow and improves symptoms in Raynaud's patients.

The more diverse the neurotransmitters which affect Raynaud's subjects' level of vasospasm (catacholamines, serotonin, others), the more likely the basic fault resides in the reactive machinery of the vessel wall (the local fault hypothesis of Sir Thomas Lewis) and not primarily in any specific neurotransmitter pathway.

Blood pressure and flow kinetics have been studied in Raynaud's phenomenon. A study of cutaneous blood flow in response to hand cooling was performed in 47 normal subjects, 26 of whom were females. Females had lower cutaneous blood flows and increased basal sympathetic tone.[6] This difference may play a role in the higher incidence of Raynaud's in women. Similar studies have shown that primary Raynaud's patients have lower brachial, digital and arteriolar blood pressure than normals. The exact significance of this finding is unknown.

Many factors are important in the pathogenesis of Raynaud's. Scleroderma or systemic sclerosis highlights the multifactorial nature of the phenomenon. Systemic sclerosis can have limited or diffuse cutaneous involvement. Diffuse involvement includes the trunk, extremities and face, while skin changes distal to the elbows and knees, face and neck are found in limited cutaneous scleroderma. CREST (Calcinosis, Raynaud's, Esophageal dysmotility, Sclerodactyly, Telangiectasias) is a synonym for limited cutaneous scleroderma. Raynaud's phenomenon is seen in both clinical syndromes and is commonly the initial manifestation of the disease. Raynaud's phenomenon typically can occur up to two years prior to skin changes in diffuse systemic sclerosis and up to 10 years before the onset of limited cutaneous systemic sclerosis. Digital arteries in scleroderma are affected by structural lesions and endothelial injury. The intimal layer of these arteries is thickened predominately with collagen. Lesser degrees of fibrosis occur in the media and adventitia. Exaggerated vasoconstriction to cold may completely occlude vessels with fixed lesions leading to severe Raynaud's. These fibrotic changes can be seen in arterioles and arteries of internal organs. Hypertension with renal crisis and pulmonary hypertension result when the kidney and lung are affected.[7]

Diffuse endothelial injury occurs in scleroderma. The cause of the injury may be a circulating cytotoxic factor with a sequence of events following injury. Platelets are activated and adhere to the injured endothelium. Potent vasoconstrictors such as thrombaxane A2 and 5-hydroxytryptamine are released. In response to vasoconstriction, normal endothelium releases prostacyclin and degrades 5-hydroxytryptamine causing vasodilation. The endothelium in scleroderma is injured and endothelial-dependent vasodilation is inhibited. Other local vasoconstrictors, such as endothelin I, may be released by injured endothelium while nitric oxide and endothelium dependent relaxation factor, both local vasodilators, are suppressed. Factor VIII-von Willebrand factor antigen (FVIII vWF Ag), a coagulation protein released by endothelial cells, has been shown to be increased in Raynaud's phenomenon. Patients who have Raynaud's secondary to a connective tissue disease have higher levels than those who do not. FVIII vWF Ag factor antigen may retard blood flow through its effect on platelets and the coagulation cascade.[3] When measured in plasma to prevent variable contributions from platelets, plasma FVIII-vWF levels are the single most reliable measurement to monitor endothelial injury (in contrast to vasoconstriction) in the individual patient and to follow responses to therapy.

Patients with scleroderma have other hematologic abnormalities, e.g., thrombocytosis, increased plasma viscosity and reduced red cell deformability. These may further decrease blood flow through the microvasculature. In primary and secondary Raynaud's phenomenon, excessive fibrinogen deposition on vessel walls, defective fibrinolysis, cold agglutinins and circulating immunoglobulins or immune complexes have been reported. Patients with essential mixed cryoglobulinemia, multiple myeloma, Waldenstrom's macroglobulinemia and cold agglutinin disease characteristically have these abnormalities, often associated with secondary Raynaud's.

Scleroderma patients have severe Raynaud's phenomenon and frequently develop complications, including ulcers and tissue necrosis. One third of patients will have one digital ulcer per year and are at risk for digital gangrene. These findings occur in other secondary causes, particularly the connective tissue diseases. No disease has a frequency of complications higher than scleroderma.

Scleroderma is also characterized by internal Raynaud's phenomenon. Organs affected include the heart, kidney, lung and esophagus. Complications from internal organ involvement can be catastrophic. The involved organs show fibrotic changes similar to those found in the digital arteries. Scleroderma renal crisis is more frequent in cold weather months, suggesting that the internal organs are sensitive to the cold. Perfusion defects of the heart and lung have been induced by cold exposure.

DIAGNOSIS

The diagnostic evaluation of Raynaud's phenomenon should begin with a careful history and physical, as well as directed laboratory and non-invasive testing. Patients with secondary Raynaud's need to be identified. A patient will rarely describe the triphasic color changes of Raynaud's. Pallor, the sign of vasospasm, secondary to cold exposure or emotional stress, strongly supports the diagnosis of Raynaud's. Cyanosis, secondary to increasing hemoglobin desaturation, may be the only color change seen in hyperviscosity syndromes, such as polycythemia vera and the monoclonal gammopathies. The use of color charts has been helpful in the diagnosis of Raynaud's. The charts consist of two parts. The first part shows normal and abnormal finger colors and the second part presents photographs of hands blanching and displaying cyanosis during a Raynaud's episode. Sensitivity and specificity of the charts are 90 and 100 percent, respectively.[9]

The history should address the signs and symptoms of connective tissue diseases. Arthralgias, skin thickening, rashes, photosensitivity, telangiectasias, digital ulcers, oral ulcers, dysphagia, sicca symptoms (dry eyes/dry mouth), muscular weakness and weight loss are all suggestive of rheumatic diseases. A thorough family history is extremely important, since familial clustering of autoimmune phenomena, including Raynaud's, is common.

A review of the patient's medications is critical. Chemotherapeutic agents, such as bleomycin and cisplatin, beta blockers, alpha agonists, oral contraceptives, nicotine and over-the-counter antihistamines and decongestants can cause Raynaud's phenomenon. The removal of the offending agent can be curative in these cases.

A careful social and occupational history is important. Raynaud's phenomenon can result from occupational exposure. The incidence of Raynaud's phenomenon is extremely high in pneumatic hammer users, stone cutters and chainsaw operators. Recreational activities including handball and bowling have been associated with Raynaud's. Smokers must be identified. Arteriosclerosis and thromboangiitis obliterans (Buergers disease) are directly related to smoking and are secondary causes of Raynaud's. Unfortunately, the nicotine patch should not be used as an adjunct to cigarette withdrawal in Raynaud's patients, because the vasoconstrictive dose of nicotine may be as high or higher than with cigarettes.

Rheumatic causes of secondary Raynaud's may have characteristic physical findings: skin thickening, telangiectasias, calcinosis, digital scarring, pitting and ulcers in scleroderma; symmetrical arthritis of the small joints of the hand and feet and rheumatoid nodules in rheumatoid arthritis; malar rash, oral ulcers and arthritis in systemic lupus; proximal muscle weakness, heliotrope rash and Gottron's papules in dermatomyositis/polymyositis; findings suggestive of lupus, scleroderma and myositis in undifferentiated connective tissue disease.

Raynaud's patients should have a complete blood count, platelet count, chemistry profile, Westergren sedimentation rate (WESR), and an antinuclear antibody test (ANA). Patients with rheumatic diseases frequently have an increased sedimentation rate and anemia of chronic disease. Leukopenia and thrombocytopenia can be seen in SLE. Specific laboratory tests can be obtained if a certain disease is suspected. Examples include: SCL-70 (topoisomerase-l) in diffuse scleroderma; double stranded DNA, complement (C3 C4) in SLE; rheumatoid factor in rheumatoid arthritis; SSA (Ro) and SSB (La) in Sjogren's syndrome; CPK, aldolase and anti-Jo-l in dermatomyositis/polymyositis; antiribonucleoprotein (RNP) in undifferentiated connective tissue disease; cryoglobulins, serum and urinary protein electrophoresis and cold agglutins in hyperviscosity syndromes.

Raynaud's phenomenon is commonly the first manifestation of a connective tissue disease. Approximately 80 percent of scleroderma and 10 of SLE patients present with Raynaud's, but initial evaluation in these patients is frequently normal. A study in 1981 followed 219 patients with Raynaud's for 10 years. At the end of the study, 109 patients had a definite connective tissue disease and 40 were suspected of having a rheumatic disease. Similar studies have come to the same conclusions and scleroderma, particularly limited cutaneous, is the most frequent disease to develop.

The presence of a positive ANA at a patient's initial evaluation is predictive of future disease. A speckled or anti-centromere ANA is a common antibody found at presentation, and is associated with the future development of limited cutaneous systemic sclerosis. The antibody is seen in 70 percent of limited scleroderma and five percent of diffuse scleroderma cases. Systemic lupus, dermatomyositis and undifferentiated connective tissue disease among others do develop after presentation but scleroderma is the most common. An otherwise asymptomatic Raynaud's patient with a positive ANA should be watched for the development of a connective tissue disease. Primary Raynaud's is not associated with a positive ANA or any other laboratory abnormalities.

Nailfold microscopy is a non-invasive test useful in predicting disease development in Raynaud's patients. Abnormalities in nailfold capillaries include capillary loss, enlarged and tortuous capillary loops and hemorrhages. Dilated capillary loops can occasionally be seen with the naked eye or ophthalmoscope but wide field capillary microscopy is frequently required. Typical changes are seen in diffuse and limited scleroderma, dermatomyositis and undifferentiated connective tissue disease. Patients with primary Raynaud's naud's phenomenon do not have capillary changes, so if abnormalities are present at initial evaluation, a connective tissue disease, particularly a syndrome of scleroderma is likely to develop.[10]

Patient's with Raynaud's phenomenon who are suspected of having scleroderma, may require pulmonary function tests and barium swallows. Asymptomatic decreases in lung volumes and esophageal dysmotility suggestive of scleroderma may be found. Patients with primary Raynaud's phenomenon do not have such abnormalities.

Angiography should be done in situations where loss of pulses correspond to symptomatic Raynaud's. A chest x-ray may show a cervical rib responsible for vascular compromise. Thermography and plethysmography are rarely indicated. A Raynaud's patient should not be routinely subjected to ice water immersion, since vascular complications can occur.

Laboratory and non-invasive testing should be utilized when indications for specific tests are present. Basic laboratory tests, including an ANA using a HEp-2 cell substrate, and possibly nailfold microscopy, are adequate for most Raynaud's patients.

TREATMENT

Primary and secondary Raynaud's are treated similarly. Medications and biofeedback are significant treatment modalities. Conservative measures are useful and should be used by all patients. Patients must remain warm. Socks and gloves need to be worn in all cold environments. The handling of a cold cup of water can cause Raynaud's, and patients must protect themselves. In cold environments, a Raynaud's patient requires complete body warmth to prevent reflex sympathetic vasoconstriction of the extremities. Battery operated socks and gloves are now available. Smoking and medication stimulating the sympathetic nervous system (antihistamines, caffeine, cold decongestants) must be eliminated.

Medications are a mainstay of Raynaud's treatment. Unfortunately, no one medication has been overwhelmingly successful and side effects are common. Calcium channel blockers have been studied in the treatment of primary and secondary Raynaud's. Nifedipine, diltiazem and verapamil have been used. Calcium channel blockers inhibit arteriolar smooth muscle contraction leading to vasodilation. Nifedipine at a starting dosage of 30 mg po (single or divided dosages) has been successful. Dosages can be increased as tolerated.

Sympatholytic agents, including reserpine, guanethidine, methyldopa and prazosin have been used with mixed results. Side effects are common and they are not as successful as the calcium channel blockers.

Topical nitrates have been used in alleviating acute Raynaud's episodes and in healing digital ulcers. A small amount of nitroglycerin 2% ointment is placed at the proximal base of an affected digit overlying the digital arteries on each side. The nitrates cause vasodilation increasing digital blood flow, but the ointment should not be placed directly on an ulcer. An excessive amount of ointment can cause systemic side effects including headaches and hypotension. The drug is not successful in all patients.

Captopril and enalapril, aniotension converting enzymes, have been used in Raynaud's. Both medications cause vasodilation but captopril has been more successful in Raynaud's. Further studies are required.

Prostaglandins are being studied extensively. Prostacyclin and prostaglandins E_1 and E_2 have received the most attention. Mechanisms of action include vasodilation and inhibition of platelet aggregation. Iloprost administration, an intravenous prostaglandin analogue, has been associated with improvement in the severity and frequency of Raynaud's, particularly in scleroderma patients. Side effects, including headaches, flushing, nausea, vomiting and diarrhea and its intravenous route of administration limit its usage. Topical analogues are being developed.

Ketanserin, a serotonin antagonist, has been developed. It inhibits vascular smooth muscle contraction and platelet aggregation. A have been noted in primary and secondary disease. The medication is given by mouth and has a side effect profile, including dizziness, sedation, anxiety, dry eyes or mouth and QT prolongation. The medication is not yet available in the United States.[11]

Aspirin, anticoagulants, low molecular weight dextrans, plasmapheresis, pentoxifylline (Trental) and thyroid supplementation have all been attempted in Raynaud's with mixed results. No formal recommendations of these medications in the treatment of primary or secondary Raynaud's can be given without controlled therapeutic trials.

The most common surgical procedures used for Raynaud's of the hands and feet are cervicothoracic and lumbar sympathectomies respectively. The cervicothoracic sympathectomy in primary Raynaud's has a high symptom reoccurrence rate within months. Patients with secondary Raynaud's show little permanent improvement after this procedure. Lumbar sympathectomy used for Raynaud's of the toes has been more successful and most results are permanent. Chemical sympathectomy can be achieved by blocking the stellate ganglion, but results are shortlived. Side effects of these procedures include Horners syndrome, dry skin, increased perspiration of the trunk and neuralgia. Sympathectomy is not more successful than medical management and its usage should be limited, particularly in secondary Raynaud's. Digital sympathectomy is a more recently introduced variation of this approach to management.

Stress management and biofeedback have been useful in the treatment of primary and secondary Raynaud's and can be considered in a treatment plan.

Patients with frequent and severe Raynaud's phenomenon require the most aggressive treatment. Patients with scleroderma tend to develop more ulcers and necrotic lesions than patients affected by other disease. Local care, topical and oral medications and antibiotics for secondary infections should be used aggressively in scleroderma and other patients. Many combinations of treatment modalities may be required before success is obtained.

In summary, connective tissue diseases should be searched for in all Raynaud's patients; nicotine, cold and stress should be reduced and, optimally, eliminated; exercise and full activity to stimulate vasodilation should be encouraged; and medications and interventions should be chosen carefully for the specific feature of the syndrome most troublesome to the individual patient. ❐

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The generalist faces a myriad of his or her bone marrow assay.

Enalapril Maleate: There was no evidence of a tumorigenic effect when enalapril was administered for 106 weeks to rats at doses up to 90 mg/kg/day (150 times* the maximum daily human dose). Enalapril has also been administered for 94 weeks to male and female mice at doses up to 90 and 180 mg/kg/day, respectively, (150 and 300 times* the maximum daily dose for humans) and showed no evidence of carcinogenicity.

Neither enalapril maleate nor the active diacid was mutagenic in the Ames microbial mutagen test with or without metabolic activation. Enalapril was also negative in the following genotoxicity studies: rec-assay, reverse mutation assay with *E. coli*, sister chromatid exchange with cultured mammalian cells, and the micronucleus test with mice, as well as in an *in vivo* cytogenic study using mouse bone marrow.

There were no adverse effects on reproductive performance in male and female rats treated with 10 to 90 mg/kg/day of enalapril.

Hydrochlorothiazide: Two-year feeding studies in mice and rats conducted under the auspices of the National Toxicology Program (NTP) uncovered no evidence of a carcinogenic potential of hydrochlorothiazide in female mice (at doses of up to approximately 600 mg/kg/day) or in male and female rats (at doses of up to approximately 100 mg/kg/day). The NTP, however, found equivocal evidence for hepatocarcinogenicity in male mice.

Hydrochlorothiazide was not genotoxic *in vitro* in the Ames mutagenicity assay of *Salmonella typhimurium* strains TA 98, TA 100, TA 1535, TA 1537, and TA 1538 and in the Chinese Hamster Ovary (CHO) test for chromosomal aberrations, or *in vivo* in assays using mouse germinal cell chromosomes, Chinese hamster bone marrow chromosomes, and the *Drosophila* sex-linked recessive lethal trait gene. Positive test results were obtained only in the *in vitro* CHO Sister Chromatid Exchange (clastogenicity) and in the Mouse Lymphoma Cell (mutagenicity) assays, using concentrations of hydrochlorothiazide from 43 to 1300 µg/mL, and in the *Aspergillus nidulans* non-disjunction assay at an unspecified concentration.

Hydrochlorothiazide had no adverse effects on the fertility of mice and rats of either sex in studies wherein these species were exposed, via their diet, to doses of up to 100 and 4 mg/kg, respectively, prior to conception and throughout gestation.

Pregnancy: Pregnancy Categories C (first trimester) *and D* (second and third trimesters). See WARNINGS, *Pregnancy, Enalapril Maleate, Fetal/Neonatal Morbidity and Mortality*.

Nursing Mothers: Enalapril and enalaprilat are detected in human milk in trace amounts. Thiazides do appear in human milk. Because of the potential for serious reactions in nursing infants from either drug, a decision should be made whether to discontinue nursing or to discontinue VASERETIC, taking into account the importance of the drug to the mother.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: VASERETIC has been evaluated for safety in more than 1500 patients, including over 300 patients treated for one year or more. In clinical trials with VASERETIC no adverse experiences peculiar to this combination drug have been observed. Adverse experiences that have occurred, have been limited to those that have been previously reported with enalapril or hydrochlorothiazide.

The most frequent clinical adverse experiences in controlled trials were: dizziness (8.6 percent), headache (5.5 percent), fatigue (3.9 percent) and cough (3.5 percent). Adverse experiences occurring in greater than two percent of patients treated with VASERETIC in controlled clinical trials were: muscle cramps (2.7 percent), nausea (2.5 percent), asthenia (2.4 percent), orthostatic effects (2.3 percent), impotence (2.2 percent), and diarrhea (2.1 percent).

Clinical adverse experiences occurring in 0.5 to 2.0 percent of patients in controlled trials included: *Body As A Whole*: Syncope, chest pain, abdominal pain; *Cardiovascular*: Orthostatic hypotension, palpitation, tachycardia; *Digestive*: Vomiting, dyspepsia, constipation, flatulence, dry mouth; *Nervous/Psychiatric*: Insomnia, nervousness, paresthesia, somnolence, vertigo; *Skin*: Pruritus, rash; *Other*: Dyspnea, gout, back pain, arthralgia, diaphoresis, decreased libido, tinnitus, urinary tract infection.

Angioedema: Angioedema has been reported in patients receiving VASERETIC (0.6 percent). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis and/or larynx occurs, treatment with VASERETIC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In clinical trials, adverse effects relating to hypotension occurred as follows: hypotension (0.9 percent), orthostatic hypotension (1.5 percent), other orthostatic effects (2.3 percent). In addition syncope occurred in 1.3 percent of patients. (See WARNINGS.)

Cough: See PRECAUTIONS, *Cough*.

Clinical Laboratory Test Findings: Serum Electrolytes: See PRECAUTIONS.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.6 percent of patients with essential hypertension treated with VASERETIC. More marked increases have been reported in other enalapril experience. Increases are more likely to occur in patients with renal artery stenosis. (See PRECAUTIONS.)

Serum Uric Acid, Glucose, Magnesium, and Calcium: See PRECAUTIONS.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g percent and 1.0 vol percent, respectively) occur frequently in hypertensive patients treated with VASERETIC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1 percent of patients discontinued therapy due to anemia.

Liver Function Tests: Rarely, elevations of liver enzymes and/or serum bilirubin have occurred.

Other adverse reactions that have been reported with the individual components are listed below and, within each category, are in order of decreasing severity.

Enalapril Maleate—Enalapril has been evaluated for safety in more than 10,000 patients. In clinical trials adverse reactions which occurred with enalapril were also seen with VASERETIC. However, since enalapril has been marketed, the following adverse reactions have been reported: *Body As A Whole:* Anaphylactoid reactions (see PRECAUTIONS, *Hemodialysis Patients*); *Cardiovascular*: Cardiac arrest; myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high risk patients (see WARNINGS, *Hypotension*); pulmonary embolism and infarction; pulmonary edema; rhythm disturbances including atrial tachycardia and bradycardia; atrial fibrillation; hypotension; angina pectoris; *Digestive:* Ileus, pancreatitis, hepatic failure, hepatitis (hepatocellular [proven on rechallenge] or cholestatic jaundice), melena, anorexia, glossitis, stomatitis, dry mouth; *Hematologic:* Rare cases of neutropenia, thrombocytopenia and bone marrow depression. Hemolytic anemia, including cases of hemolysis in patients with G-6-PD deficiency, has been reported; a causal relationship to enalapril has not been established. *Nervous System/Psychiatric:* Depression, confusion, ataxia, peripheral neuropathy (e.g., paresthesia, dysesthesia); *Urogenital:* Renal failure, oliguria, renal dysfunction (see PRECAUTIONS), flank pain, gynecomastia; *Respiratory:* Pulmonary infiltrates, bronchospasm, pneumonia, bronchitis, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection; *Skin:* Exfoliative dermatitis, toxic epidermal necrolysis, Stevens-Johnson syndrome, herpes zoster, erythema multiforme, urticaria, pemphigus, alopecia, flushing, photosensitivity; *Special Senses:* Blurred vision, taste alteration, anosmia, conjunctivitis, dry eyes, tearing.

Miscellaneous: A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgia/arthritis, myalgia/myositis, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash and other dermatologic manifestations.

Fetal/Neonatal Morbidity and Mortality: See WARNINGS, *Pregnancy, Enalapril Maleate, Fetal/Neonatal Morbidity and Mortality.*

Hydrochlorothiazide—Body as a Whole: Weakness; *Digestive*: Pancreatitis, jaundice (intrahepatic cholestatic jaundice), sialadenitis, cramping, gastric irritation, anorexia; *Hematologic:* Aplastic anemia, agranulocytosis, leukopenia, hemolytic anemia, thrombocytopenia; *Hypersensitivity:* Purpura, photosensitivity, urticaria, necrotizing angiitis (vasculitis and cutaneous vasculitis), fever, respiratory distress including pneumonitis and pulmonary edema, anaphylactic reactions; *Musculoskeletal:* Muscle spasm; *Nervous System/Psychiatric:* Restlessness; *Renal:* Renal failure, renal dysfunction, interstitial nephritis (see WARNINGS); *Skin:* Erythema multiforme including Stevens-Johnson syndrome, exfoliative dermatitis including toxic epidermal necrolysis, alopecia; *Special Senses*: Transient blurred vision, xanthopsia.

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* Based on patient weight of 50 kg.

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Editorials

A DIALOGUE FOR THE MANAGEMENT OF COMMON MUSCULOSKELETAL DISORDERS

The generalist faces a myriad of his or her patient's chief complaints on a daily basis. Surely one of the most frequent and sometimes the most vexing is the complaint of pain on and/or limitation of movement. Since pain has a subjective component, the physician must weigh its severity while defining its cause or causes, including any decrease in the full range of motion of any specific movement. There may be literally hundreds of reasons for the patient's complaint including dementia, neurosis/psychosis, paralysis or arthritis. When the physician decides that the problem is musculoskeletal, it is time to consider the more than 100 disorders which are the purview of the rheumatologist. It is the purpose of this two-issue symposium (May and November, 1993) to permit rheumatologists to develop a dialogue with general physicians on the approach to the more common musculoskeletal diseases and to their management.

Fortunately, there are groupings which help to define the patient's problem. For example, symmetrical inflammatory joint abnormalities fall into the rheumatoid family (after ruling out more common things such as sepsis or serum sickness); "pain all over" (schmertz über alles, as the Germans dubbed it) with few localizing signs is a candidate for non-articular rheumatism with all its grey zones; a syndrome of cold, painful, pale or blue digits in episodic sequence indicates Raynaud's phenomenon and leads into the diffuse connective tissue disorders; specifically localized pain and limitation indicate mechanical, impingement, or degenerative conditions; and the systemically ill patient (fever, weight loss, weakness), if not septic, could have one of the autoimmune forms of systemic vasculitis. It is a formidable undertaking to define the precise nature of the patient's problem; the task is no easier in the present mood of denying hospitalization, payment and reimbursement for diagnostic evaluation (remember when FUO, fever of unknown origin, or PUO, pyrexia of unknown origin, was the highest challenge as a hospital admission). It is the hope of all involved that the generalist's difficult task will be made a little bit easier by the contributions to this symposium on common rheumatological complaints.

For this, the second rheumatology symposium issue (November,1993), the first article represents in some ways the most challenging area, which is fibromyalgia, a relatively specific entity in the large and rather nebulous realm of non-articular rheumatism. With enough jangled nerves, sleep disruption, and lack of physical fitness, all of us are candidates for fibromyalgia. Some South Carolina survivors of Hugo are the residual of the epidemic of this disorder which followed the rigors of that natural disaster. Nowhere is the tender loving care (TLC) of the compassionate physician and health related professional more critical to a successful outcome than in fibromyalgia.

Secondly, lupus remains a challenge despite the successes of the glucocorticoid (cortisone) era, which, coupled with early diagnosis, have improved 10-year survival from under 20 percent (1950s) to over 90 percent. Today's challenge in lupus is how to prevent immune complex injury without subjecting the patient to the ravages of glucocorticoid and immunosuppressive therapy (sepsis, osteopenia, sterility, accelerated atherosclerosis). It is literally a case of the therapy uncontrolled being potentially as destructive as the disease, requiring careful control of all therapeutic modalities.

Thirdly, tendenitis and bursitis are both as challenging in their precise localization as they are common in all age groups of our population. Here, generalities are not much help; one must get down to the anatomy and degree of functional impairment in the context of the individual's functional requirements. Michael Jordan's tendinitis might well be managed differently from Senator Thurmond's bursitis.

Fourthly, Maurice Raynaud described in 1862 a phenomenon which afflicts four percent of adults and greater than 10 percent of women in their active hormonal years which can be a clue to the early diagnosis of the diffuse connective tissue diseases, especially scleroderma (systemic sclerosis), dermatomyositis/polymyositis, polyarteritis, dysproteinemias, and occasionally lupus. New diagnostic modalities are available to be applied in the generalist's office to sort out the connective tissue disease prone patient.

Sorting out the cause of pain/limitation can be fun and exciting. It is one of the most satisfying experiences to witness the patient's gratitude upon return to as near normal function as possible.

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On the Cover:

MAURICE RAYNAUD: 1834-1881

Maurice Raynaud was born in 1834, the son of a distinguished French university professor and nephew of the well-known Paris surgeon, A. G. M. Vernois. He earned his doctor's degree in Paris in 1862. His thesis was entitled "De l'asphyxie locale et de la gangrene symetrique des extremites." In this document, he described the episodes of discoloration of the digits which are now known as Raynaud's phenomenon. Another publication of Raynaud's of interest to the medical historian is his *La médecine au temps de Molière*, Paris, 1862.

Raynaud was associated with several Paris hospitals, including the Hôtel Dieu, Laboisière, and Charité during his lifetime. He was made an officer in the Légion d'Honneur in 1871 and elected to the Académie de Médecine in 1879. He was considered an excellent teacher and a fine clinician.

For several years he had suffered from organic heart disease; and in 1881, when he was 47 years old, he suffered a heart attack and died within three hours.

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Alliance Page

AMA-ERF

"One Choice ... One Hour"

For the fourth consecutive year, AMA Alliance members have raised more than $2 million for the American Medical Association Education and Research Foundation (AMA-ERF) to benefit the nation's medical schools. In 1992-93 SCMA Alliance members raised $31,338.00 for medical education and research, the largest amount ever.

"One Choice ... One Hour" is the fund-raising theme set by the AMA Alliance for 1993-94. The goal this year is for each member to buy one hour of medical education for one medical student at an hourly cost of $21.03. If each Alliance member will contribute at least one hour of medical education, that alone would bring contributions to $1.3 million. The SCMA Alliance is encouraging members to purchase one hour or more of medical education through contributions to their Holiday Sharing Cards.

Funds are needed by medical schools now more than ever. The foundation is unique in that 100 percent of each contribution is given to the designated medical school; no funds are deducted for administrative costs.

Several different funds have been established by AMA-ERF to support the diverse needs of medical schools. The Medical School Excellence Fund provides grants to medical schools to use where they are most needed. These unrestricted funds support special student programs, research projects, guest lectures, attendance at meetings, as well as subsidize costs for new equipment, books, and building improvements. The Medical Student Assistance Fund provides monies for medical schools to use in direct financial aid for medical students who are in need.

Taken together, these funds have helped support the highest standards of medical education, research as a career path for talented young medical students, and quality patient care.

With spiraling costs and shrinking sources of funding, the nation's medical schools increasingly depend on private sources to help meet the educational needs of the country's future physicians. The AMA-ERF is such a source. As one supporter puts it, "Whether my child chooses to be the physician, and/or inevitably becomes the patient, I will have participated in the quality of care given."

Mrs. Alice Markowitz
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CARE

President's Page

GOVERNOR'S GOAL FOR MANAGED MEDICAID

One of the issues that has arisen in the national debate regarding health care reform is the rapidly increasing cost of the Medicaid program. President Clinton's reform legislation would place Medicaid recipients in health care alliances with other citizens, possibly ending the separate Medicaid program. Governor Campbell has recently begun a serious effort to explore the possibilities of implementing a managed health care system for South Carolina's Medicaid population. The South Carolina Medical Association has been asked to participate in this process. We have earnestly done so with participation by SCMA physicians and staff.

We all know the flaws in the Medicaid system. Inappropriate use of expensive emergency room services, overutilization of appropriate services, absurdly low reimbursement rates to physicians, and a bewildering maze of paperwork are the problems physicians most often cite when discussing this issue. We have recommended increasing physician reimbursement rates, implementation of a case management fee for primary care physicians, incentives for appropriate utilization such as deductibles and copayments, and disincentives to use emergency rooms as primary care clinics. We have also volunteered to participate in reasonable utilization review programs and have suggested expanded funding for preventive care and wellness programs.

South Carolina physicians have always endeavored to responsibly care for our medically needy citizens. If we are successful in obtaining political support for increasing physician reimbursement under Medicaid, we must continue to ensure physicians will share this responsibility equitably and insist that no South Carolinian in need go without medical care.

E W Catalano MD

Edward W. Catalano, M. D.
President

The Journal OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

VOLUME 89
DECEMBER 1993
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Contents

Original Scientific Articles

559 **Laparoscopic Applications in Adult and Pediatric Urology**
C. William Hinnant, M. D., Fletcher C. Derrick, M. D.

565 **Endoscopic Carpal Tunnel Release: What's New in the Treatment of Carpal Tunnel Syndrome**
John A. McFadden, M. D.

Special Articles

572 **Reflections on “Soul” and Medical Art**
C. D. Bessinger, Jr., M. D.

583 **The Physician's Armchair Guide to Advance Directives**
Stephen P. Williams, J. D.

Editorials

594 **Laparoscopic Applications in Adult and and Pediatric Urology**
Kevin P. Killeen, M. D., Daniel A. Shames, M. D., Stanley H. Greenberg, M. D.

596 **Socialized Lumber**
F. B. Adams, M. D.

598 **The Soul of Medicine**
Charles S. Bryan, M. D.

Features

605 **Alliance Page**
603 **Letters to the Editor**
604 **On The Cover**
557 **President's Page**

Association

599 **CME Calendar**
611 **Gray Matter**
606 **Index to Volume 89**
579 **SCMA Newsletter**

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LAPAROSCOPIC APPLICATIONS IN ADULT AND PEDIATRIC UROLOGY

C. WILLIAM HINNANT, M. D.*
FLETCHER C. DERRICK, M. D.

The widely known gynecological applications of laparoscopy and the introduction of laparoscopic cholecystectomy by Dubois et al[1] to the general surgical community in 1990 have led to the logical extension of this minimally invasive technique to the genitourinary system. Though exact indications are presently somewhat controversial and constantly evolving, the introduction of laparoscopic technology allowing minimally invasive therapy and more rapid recuperation has a promising future both in medicine in general and specifically in urology.

Endourology and minimally invasive surgery have replaced previously complex open surgery in the management of many common urological problems including nephrolithiasis, stress urinary incontinence, and even in the staging of genitourinary malignancy.

What follows is a brief synopsis of laparoscopic indications and techniques as well as potential complications, applications,[2] and economic considerations of this technology to patients with urological pathology. Its purpose is to place this developing field and its urological applications into perspective.

LAPAROSCOPIC STAGING OF GENITOURINARY MALIGNANCIES

South Carolina has one of the highest cause specific mortality rates due to adenocarcinoma of the prostate in the nation and nearly 500 men in the state will die of the disease this year.[3]

The availability of serum prostate specific antigen (PSA) levels as well as transrectal prostatic sonography and concurrent biopsy has allowed the earlier detection of prostatic malignancy in its potentially curable stages.

The availability of anatomic nerve-sparing radical retropubic or perineal prostatectomy has reduced the incidence of erectile dysfunction and incontinence to very acceptable levels in surgically treated patients.

PSA, a 31 kdal serine protease glycoprotein with a half life of approximately 3.2 days, is a highly sensitive marker for prostatic adenocarcinoma but due to its expression in men with benign prostatic hypertrophy lacks specificity.

Small foci of adenocarcinoma in a hyperplastic gland may artificially increase PSA and mislead one into the diagnosis of metastatic disease. Since MRI and CT scanning lack sensitivity in the detection of occult lymphatic metastases,[4,5] laparoscopy provides a minimally invasive means for staging pelvic lymphadenectomy in patients with normal or minimally-elevated serum acid phosphatases and negative radionuclide bone scans. These men should be candidates for surgery or radiotherapy with a life expectancy of at least ten years and minimal cardiorespiratory risk factors without bleeding diatheses. The average age of men in our series is 66 years.

---

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The technique involves establishment of a 15 cm. H_20 pneumoperitoneum via the umbilical route. We find the transcutaneous Varess needle adequate for patients with no history of previous abdominal surgery or radiotherapy, however, prefer direct-vision peritineotomy with placement of an occlusive Hasson trocar in the above groups or any patient at risk for intraabdominal adhesions.

Working 5 and 10 mm. trocars are placed under direct vision after establishment of the camera port with care to avoid the inferior epigastric vasculature.

Dissection proceeds from the medial umbilical ligament with division of the vasa deferentia and removal of all investing lymphatic tissue surrounding the external iliac vessels and contained in the obturator fossae.[6] The obturator nerves are identified bilaterally and spared. The right-sided dissection is completed first followed by the left where mobilization of the sigmoid colon is frequently necessary. The average bilateral dissection requires one hour and all trocars are removed under direct vision at the conclusion of the procedure. The pneumoperitoneum is released and trocar sites are closed subcutaneously with absorbable suture. Patients may be discharged on the same day or may be hospitalized overnight.

Laparoscopic staging allows differentiation of patients with systemic disease requiring hormonal therapy from those with locally advanced disease potentially treatable with radiotherapy or radical prostatectomy. Patients with systemic disease are spared the potential morbidity of prostatectomy in the situation where they will not benefit from local ablation and can undergo orchiectomy for hormonal control under the same anesthetic if the diagnosis is pathologically confirmed.

Conversely, patients with organ-confined disease avoid an abdominal incision as radical perineal prostatectomy may then be performed later or even under the same anesthetic if frozen section pathology is negative. This procedure entails minimal blood loss and a much easier vesicourethral anastomosis, decreasing the likelihood of transfusion and postoperative bladder neck contracture. The period of hospitalization and convalescence is greatly shortened, affording marked third party and patient cost saving. Unfortunately, the learning curve for the perineal technique is steep to avoid rectal injury and preserve potency.

Laparoscopic pelvic lymphadenectomy (LPLND) can be used to stage patients with transitional cell carcinoma of the urothelium, thereby selecting that subgroup of patients best suited to primary or neoadjuvant platinum-based chemotherapeutic management prior to any attempt at surgical extirpation and urinary diversion. The technique also could allow combined transurethral and transperitoneal laser ablative therapy of high grade or deeply invasive urothelial cancer with potential bladder preservation.

In the case of metastatic squamous cell carcinoma of the penis or urethra, LPLND selects the 20 to 50 percent of patients curable through radical ilioinguinal lymphadenectomy (IL).[7] Those patients incurable surgically thereby avoid the potential lower extremity edema, inguinal skin flap necrosis, phlebitis, and deep venous thromboses that complicate IL and receive early primary chemotherapy without the delay required for wound healing after radical surgery.

In the case of non-seminomatous testicular malignancies, 15 to 20 percent of clinically organ-confined tumors will actually have occult metastatic disease in the retroperitoneum not detectable by CT or MRI. The options of surveillance with regular tumor marker assay and abdominopelvic imaging versus early retroperitoneal lymphadenectomy (RPL) for accurate staging are controversial.

Platinum-based chemotherapy is equally effective in low volume disease when used primarily or at the time of clinically evident disease presentation in the retroperitoneum, however, thorough RPL can be curative in that same group and avoid the need for chemotherapy and its attendant morbidity. Unfortunately, 20 to 40 percent of patients will experience retrograde or an ejaculation after RPL unless the thoracolumbar sympathetics are spared.

In some centers, laparoscopic pelvic and retroperitoneal nodal sampling has been used to select those patients requiring formal RPL, sparing those patients with negative lymph nodes the potential complications of RPL as well as the costs of a surveillance protocol. The necessity of patient compliance in a surveillance protocol so as to detect retroperitoneal metastases at an early stage is obviated and the psychological impact on these generally young patients in knowing that no metastatic disease is present cannot be overemphasized.

LAPAROSCOPIC THERAPY OF THE DISEASED KIDNEY AND URETER

Clayman et al[8] described laparoscopic nephrectomy (LN) in 1991 and have subsequently performed over 30 of these procedures.

The technique requires upper abdominal trocar placement, mobilization of the colon, careful dissection of the renal hilum, and division of the ureter. It is not suitable for renal malignancy due its inability to provide early vascular control and completely remove Gerota's fascia and the perirenal fat. Laparoscopy could be used to perform regional lymphadenectomy as a staging procedure in patients with possible metastatic renal malignancy detected radiographically and may also be used to perform adrenalectomy in cases of suspicious adenomas, hyperplasia, Conn's syndrome, or small primary or isolated metastatic carcinomas.

Once the kidney is free within the abdomen it is placed in the laparoscopically-placed "lap sack" and morcillated or removed through a small extension of a trocar site. The specimen is then aspirated for pathological analysis. In females, a small posterior colpotomy can be used to remove the kidney transvaginally.

The technique is best suited to atrophic chronically pyelonephritic kidneys or poorly functioning ischemic kidneys causing renin-mediated hypertension. It is imperative that voiding cystourethrography be performed prior to planned LN since vesicoureteral reflux would necessitate concomitant removal of the ureter. Retrograde pyelography may also be useful to evaluate the non-refluxing ureter to rule out calculi, neoplasms, or congenital anomalies.

Laparoscopy is also useful for the drainage of symptomatic simple renal cysts as well as renal biopsy in patients who aren't candidates for percutaneous needle biopsy. It can also be used to place peritoneal dialysis catheters and to marsupialize post transplant pelvic lymphoceles in the poorly healing immunocompromised transplant recipient. In the case of post transplant ureteral leak, the combination of transurethral stent drainage and laparoscopic properitoneal drainage might facilitate healing and intracorporeal suturing could allow potential repair to salvage the graft.

Percutaneous access to pelvic or orthotopic kidneys can be gained through a combined transurethral and laparoscopic approach. This is particularly advantageous in situations where percutaneous radiographic access is hazardous due to position, excessive adhesive disease, proximity to major vascular structures, or coagulopathy. Ureterolysis for idiopathic retroperitoneal fibrosis can also be performed laparoscopically.

Laparoscopic ureterolithotomy has been performed but has limited applications due to the widespread availability of endourological therapy and extracorporeal lithotripsy. It is a viable alternative to the open technique when endoscopic or medical therapy has failed.[9] A similar technique has been used to repair ureteral injuries occurring during laparoscopically-assisted hysterectomy, however, both require technically difficult intracorporeal suturing.

If suturing is technically feasible for the operating surgeon, then laparoscopic detrusorhaphy for the correction of vesicoureteral reflux is a possible future application of this technology.

LAPAROSCOPIC THERAPY OF THE LOWER GENITOURINARY TRACT

Varicocele is a common abnormality, affecting roughly 10 percent of males. The disorder requires no therapy if asymptomatic or in the absence of oligoasthenospermia in an individual thought to be subfertile. Laparoscopic ligation of the internal spermatic vein is curative and can be performed on an outpatient basis. The dissection does not require separation of the spermatic artery prior to ligation in most cases. In cases of recurrent or post herniorrhaphy varicoceles, where testicular blood flow may be previously compromised, identification and preservation of the spermatic artery may be facilitated by use of a laparoscopic doppler probe (Meadox Surgimed Inc.) or topical papaverine application.

As traditional varicocele ligation can be performed through a small inguinal incision, laparoscopy is best suited to bilateral cases, post-herniorrhaphy varicoceles, recurrences, or in cases of patient preference. We have, however, been favorably impressed with the rapid recovery and early return to work of patients after the laparoscopic approach and have a low threshold to use this technique primarily.

The non-palpable undescended testis is a diagnostic dilemma. Does the patient have congenital unilateral anorchia or is the testis properitoneal or intraabdominal? Chorionic gonadotropin testing can discern the presence of functional testicular tissue but is non-localizing and CT and MRI again lack sensitivity and specificity.

Laparoscopy provides not only a mechanism for gonadal localization but also for biopsy, first-stage orchiopexy with division of the spermatic artery, and even orchiectomy if indicated.[10] If first-stage orchiopexy is performed, the patient can later undergo definitive placement of the testis in the scrotum for preservation of hormonal function and ease of examination to rule out later malignant transformation. The technique has particular applicability to the pediatric intersex patient where mixed dysgenetic gonads are highly prone to seminoma, gonadoblastoma, and dysgerminoma.

Trocar placement in the pediatric patient should be approached cautiously due to the minimal subcutaneous fat present in most of these patients.

Laparoscopic bladder neck suspension is best suited to accompany laparoscopically-assisted hysterectomy or cholecystectomy or in cases of recurrent postoperative stress incontinence since transvaginal cyto-urethropexy allows equally rapid recovery. In the few situations of total urethral incompetence requiring fascial sling suspension, an abdominal incision is required and may be replaced by laparoscopic suspension using a synthetic Marlex sling anchored to the pubic symphysis.

The laparoscope can be used to assist in urinary diversion by division of the ureters and their anastomosis to an isolated intestinal segment. The anastomosis must be completed extracorporeally with the intestinal segment then placed back into the abdomen through a small incision. Given the inordinant amount of time required for this procedure, its clinical utility is certainly limited.

TABLE 1

PROCEDURE	NUMBER PERFORMED	COMPLICATIONS
Laparoscopic Pelvic Lymph Node Dissection	23*	1 pulmonary embolus 1 lymphocele
Laparoscopic Variocecele ligation	6#	none
Laparoscopie Exploration for Cryptorchidism	3	none
Laparoscopic Orchiectomy	1	none
Laparoscopic Nephroureterectomy	1	none

* 22 patients subsequently underwent radial prostatectomy. One elected to undergo interstitial radiotherapy. All presently are clinically disease-free.

# All patients experienced resolution of their variocele and all treated for oligoasthenospermia had improved seminal quality.

COMPLICATIONS OF LAPAROSCOPY

Laparoscopic surgery is subject to the same complications as the corresponding traditional open techniques.[11] Bleeding and wound infections are prevented with meticulous technique and appropiate prophylactic antibiotics. Deep venous thrombosis is usually prophylaxed with sequential compression hose. Complications particular to laparoscopy include tension pneumoperitoneum which is avoided by minimizing intraabdominal pressure below 20 cm. H_20. The scrotum must occasionally be decompressed postoperatively or can be wrapped preoperatively to avoid pneumoscrotum. Extraperitoneal insufflation should be avoided since it makes subsequent intraperitoneal positioning difficult and is more uncomfortable postoperatively for the patient.

Abdominal wall bleeding due to trocar placement is the most common complication and can be controlled through tamponade with a temporary full-thickness pursestring suture or if necessary repaired through extension of the trocar site itself. Visceral injuries discovered after trocar placement should be repaired immediately and can usually be prevented by tube gastric decompression and bladder decompression using a Foley catheter. Major vascular injury demands immediate laparotomy, proximal and distal control, and subsequent primary repair. The trocar should be left in situ until vascular control is achieved. A brief summary of our experience to date is included in Table 1.

ECONOMIC CONSIDERATIONS

Although the instrumentation is expensive, laparoscopy is still generally cost effective due to the shorter hospitalization required, decreased recuperation time, and early return to employment. A recent study by Winfield revealed LPLND to add a total of $1300.00 to the cost of the traditional open approach.[12]

For this reason, patients at low risk for nodal disease are best managed through traditional lymphadenectomy at the time of radical prostatectomy. Further cost savings are afforded by using non disposable trocars or pre-packaged instrument sets and performing the procedure on an outpatient basis, bringing both approaches to near parity from a cost standpoint. We have never encountered problems with third party reimbursement and the savings in recovery time and early return to activity with only minimal or no increased total monetary costs are particularly attractive to patients, their families, and employers. ❐

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ENDOSCOPIC CARPAL TUNNEL RELEASE: WHAT'S NEW IN THE TREATMENT OF CARPAL TUNNEL SYNDROME

JOHN A. MCFADDEN, M. D.*

Carpal tunnel syndrome is the most common compression neuropathy of the upper extremity. It was poorly recognized, however, until well into the twentieth century.[1] Compression of the brachial plexus was popularly thought to be the cause of thenar atrophy until the British neurologist Brain published the first detailed paper on the pathophysiology of spontaneous median nerve compression in 1947.[2] Sir James Learmouth had earlier reported the first surgical release of the transverse carpal ligament for post traumatic median nerve compression in 1933[3] and then in 1950, George Phalen published his first of a series of papers on a large clinical experience of carpal tunnel syndrome.[4] His subsequent reports have demonstrated the efficacy of surgical decompression of the median nerve.[5-9]

Carpal tunnel syndrome is now known as one of a group of pathologic entities collectively called Cumulative Trauma Disorders (CTDs).[10] Their increasing incidence has been attributed to the repetitive and sometimes forceful tasks of modern day industry.[11-16] The presumed mechanism is that repetitive motion has an additive effect that exceeds the biomechanical limitations of otherwise normal tissue.[17] This strain is thought to be enough to incite an inflammatory and repair process and account for the pain often experienced. Unfortunately, there are no data to support this hypothesis and an inflammatory process has not been documented. It has been postulated that the increasing incidence of work related CTDs may be related to a changing legal environment which allows carpal tunnel syndrome to be claimed as a work related "injury."[17] Some correlation has also been proposed between CTDs and employee satisfaction and performance and their eagerness to return to work.

Nonetheless, carpal tunnel syndrome is here to stay with no clear answer to the CTD issue in the immediate future. Current treatment includes a period of splinting of the wrist and Non Steroidal Anti-inflammatory Drugs (NSAIDs). Job modification is also a key component to the successful non-operative treatment of carpal tunnel syndrome particularly when it is considered to be precipitated or aggravated by working conditions. Many cases may resolve or be improved by these simple measures. The length of time that this therapy should continue is unclear although improvement from splinting and NSAIDs is usually seen by one week if this therapy is going to be successful.[19] One could expect that six weeks of non-operative treatment would be sufficient since the inflammatory process (if one truly exists) could reasonably be expected to subside during this interval. Surgical decompression of the median nerve has a high success rate and should be considered when non-operative measures fail. Like many other areas in surgery, the trend is toward less invasive techniques.

OPEN VS. ENDOSCOPIC CARPAL TUNNEL RELEASE

Currently, some controversy exists regarding the risks of endoscopic carpal tunnel release (ECTR) compared to the conventional open method (OCTR). Retrospective reports on large numbers of patients treated by OCTR have proven the safety and success of this procedure.[4-9] There is some concern, however, that OCTR may not be as benign a procedure as popularly believed. Complication rates as high as 18 percent have been reported.[20] These include hypertrophic scarring and scar tenderness due to adherence of the median nerve, severance of the palmar cutaneous or motor branches of the median nerve, nerve injury from neurolysis, flexor tendon adherence ,"bowstringing" of the flexor tendons, laceration of the median nerve and necrosis of the palmar skin.[21-24] Reoperation for complications of the treatment of carpal tunnel syndrome is not uncommon. At least 70 percent of members responding to a survey by the American Society for Surgery of the Hand reported performing repeat operations for complications of carpal tunnel surgery as a routine part or their practices.[25] Although the specific incidences of these complications vary, there is a clear indication that OCTR is plagued by potential hazards. Numerous technical variations including the design of the skin incision, neurolysis of the median nerve, reconstruction of the transverse carpal ligament and various flaps to pad the nerve from the overlying skin incision have been described over the years. These attempts at improving the results of carpal tunnel surgery have had mixed results and there is no consensus as to which specific technique of OCTR is best. It has become increasingly clear however, that internal or external neurolysis of the median nerve is generally not indicated and that the key component to relief of the patient's symptoms is simply division of the transverse carpal ligament with a minimal amount of dissection of the adjacent structures. This understanding of carpal tunnel syndrome and the sometimes troublesome complications has prompted an interest in less invasive techniques.[26,27]

---

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Endoscopic carpal tunnel release as described separately by Agee and Chow has shown to be effective and to have the added benefit of less incisional pain and an earlier return to work.[27-29] Chow recently reported his experience with 650 endoscopic carpal tunnel releases over a four-year period using his "two portal" technique. He reported that 98 percent of patients returned to normal job activities. Fifty-nine percent of these returned to full activity by two weeks postoperatively and 84 percent by four weeks. Grip and pinch strength studies showed that 60 percent regained normal grip strength by two weeks and 99 percent by 16 weeks postoperatively. Complications included two cases of transient ulnar nerve palsy which resolved spontaneously, one patient had incomplete division of the ligament requiring reoperation and one case had a recurrence due to perineural scarring. There were no apparent problems with prolonged incisional pain or pillar pain.[30] Endoscopic carpal tunnel release has been the subject of great concern and scrutiny because of early unpublished reports of iatrogenic laceration of the median nerve and flexor tendons. This has not been reported by the originator of the technique but is known to have occurred. This procedure has the distinct disadvantages of an inherent risk of iatrogenic nerve or vessel injury, increased equipment costs and an operator "learning curve" which must be overcome.[31] Nationally, complication rates of 0.43% to 0.6% have been reported as part of a multi-center review of the technique. Data collected from surgeons performing ECTR without prior training show a 24 percent complication rate. Clearly the "learning curve" must be regarded with great respect but the overall success rates are quite good when compared to OCTR. The most recent publications include refinements in technique which help to minimize risk and anatomic studies which have improved our understanding of the pertinent anatomy.[32,33]

Endoscopic carpal tunnel release is best reserved for cases of uncomplicated idiopathic carpal tunnel syndrome which is refractory to non-operative therapy. Our current technique is that of the Modified

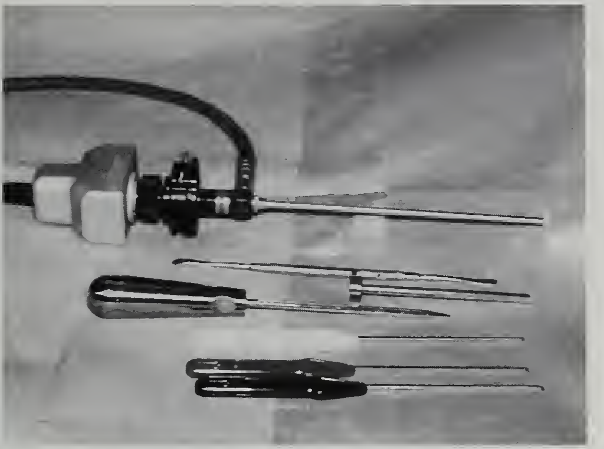

Figure 1. Instrumentation used in Endoscopic Carpal Tunnel Release (ECTR). (Top to Bottom) small joint arthroscope, elevator for dissection under the ligament, trocar and outer sheath, set of three knives.

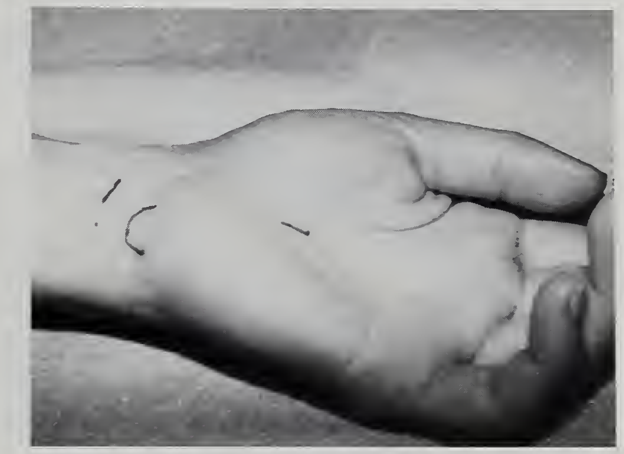

Figure 2. Preoperative markings show the proximal and distal incisions. The "U" shaped mark denotes the pisiform which is used as a reference point for placing the incisions.

Chow technique described by Seiler.[25] This method includes a one to two centimeter transverse incision between the flexor carpi ulnaris and palmaris longus tendons one centimeter proximal to the distal wrist crease (Fig. 2). The dissection is carried through the deep muscular fascia. This layer is contiguous with the transverse carpal ligament . A blunt trocar which has an outer slotted cannula to allow visualization of the ligament is passed deep to the ligament but superficial to the ulnar bursa and out of a more distal counter incision along the opposition crease of the thumb (Fig. 3). When making the distal counterincision it is important to dissect through the palmar fascia and identify the distal end of the transverse carpal ligament in order to protect the palmar arch and the branches of the median nerve. This added step is a safety improvement over the original Chow technique. It is critical for the surgeon to appreciate that the cannula is not superficial to the median nerve but is just ulnar to it and in that position, it has the potential to have a branch of the nerve tented superficial to the cannula so that the nerve is between the cannula and the skin. This is obviously a very hazardous situation.

The blunt trocar is next removed leaving behind the outer slotted cannula. This is a "C" shaped cylinder which allows visualization of the undersurface of the transverse carpal ligament by passing a 30 degree angled small joint arthroscope into one end of the cannula. The transverse orientation of the ligament fibers confirms proper positioning in the carpal canal. If these transversely oriented fibers cannot be visualized for any reason, the procedure should be converted to an OCTR as there is no way to confirm that the nerve is not in danger under these circumstances. If the ligament is well visualized, it can then be divided using a set of three specially designed knives (Fig. 4). The camera and sheath are removed and the wound closed. A light dressing is applied and early motion is encouraged. Patients are released to return to work as soon as they are comfortable. For most activities this is by two weeks into the recovery.

Endoscopic carpal tunnel release has the theoretical advantage of preserving the palmar fascia and subcutaneous fatty layers directly superficial to the transverse carpal ligament. Additionally, a skin incision directly over the nerve is avoided. It is thought that the scar sensitivity which sometimes follows open CTR is related to adherence of the nerve to adjacent scar tissue and the undersurface of the skin. ECTR obviates this problem by retaining a layer of

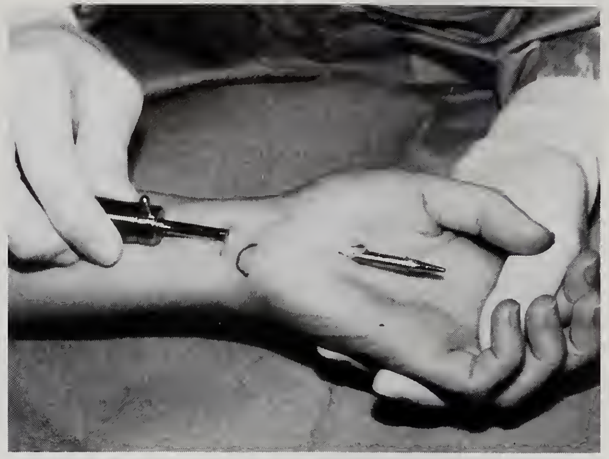

Figure 3. The trocar with its outer sheath is passed through the carpal tunnel. Its position is just deep to the ligament so that the tendons are posterior and the median nerve is radial to the cannula.

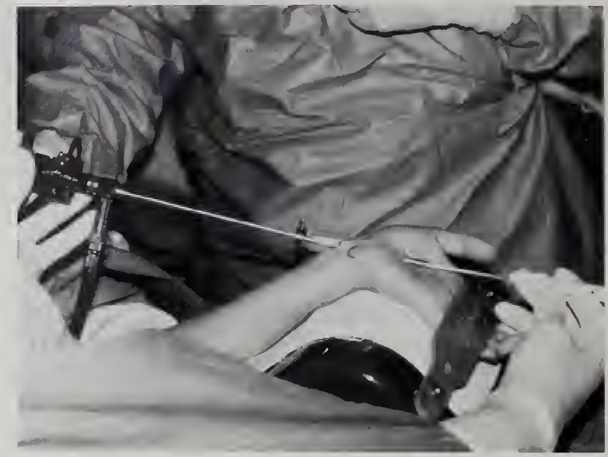

Figure 4. A special retractor holds the wrist in extension. The camera is passed into the outer sheath from the proximal side while the knife is passed distally. The ligament can then be cut under direct vision.

normal tissue which acts to pad the nerve from the trauma of everyday use. This lesser incision probably accounts for the decreased postoperative pain and quicker recovery that has been reported.

The use of endoscopic carpal tunnel surgery must be individualized according to patient wishes and needs and patients must be advised of the potential risks. Although the open technique is a highly successful operation, patients desiring a less invasive procedure and a faster return to work will benefit from this procedure. A respect for the potential hazards and careful scrutiny of operative details will help the surgeon to minimize the risks.

This new technology offers a refinement in our ability to treat carpal tunnel syndrome. Many questions however, remain to be answered. ❐

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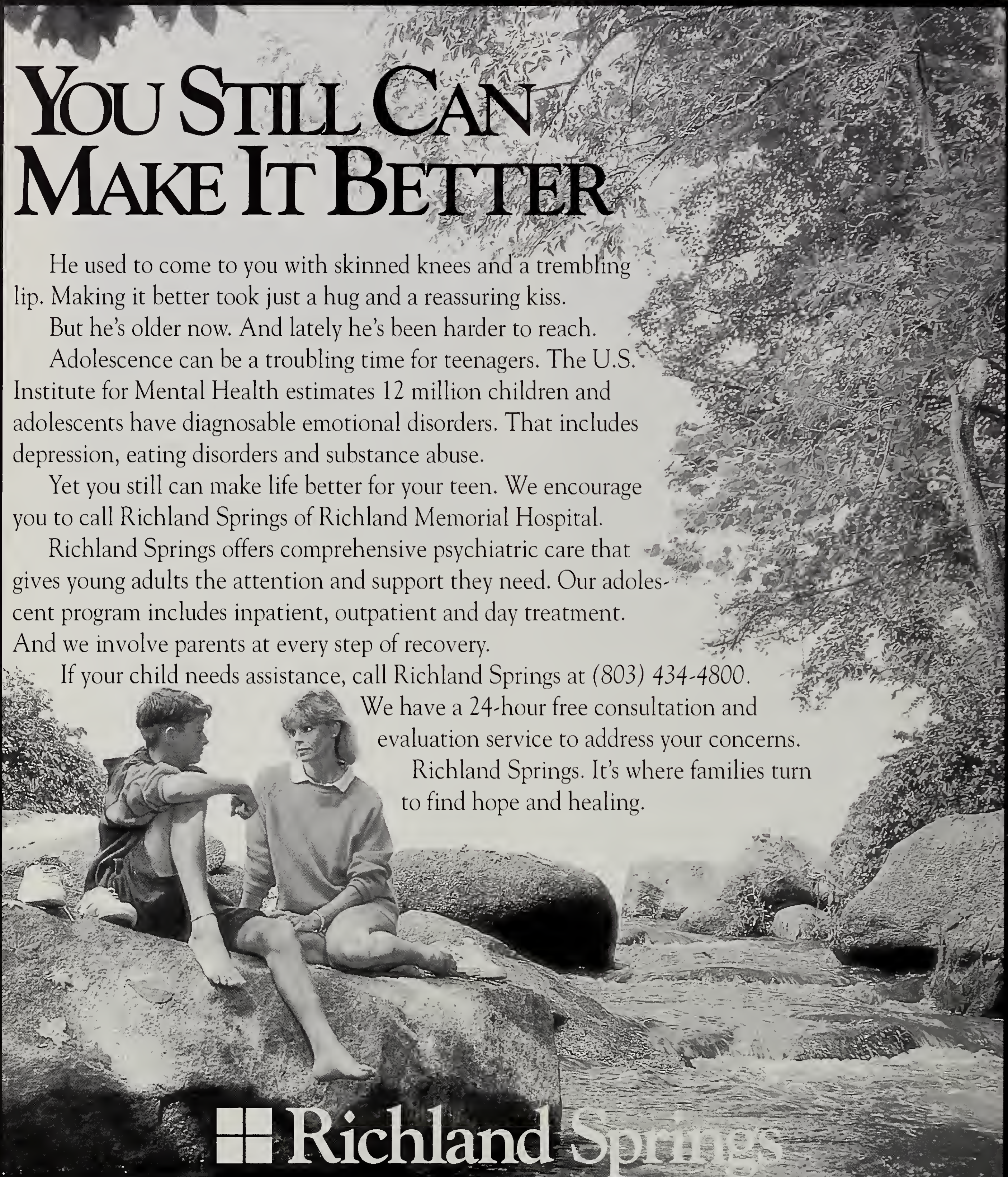

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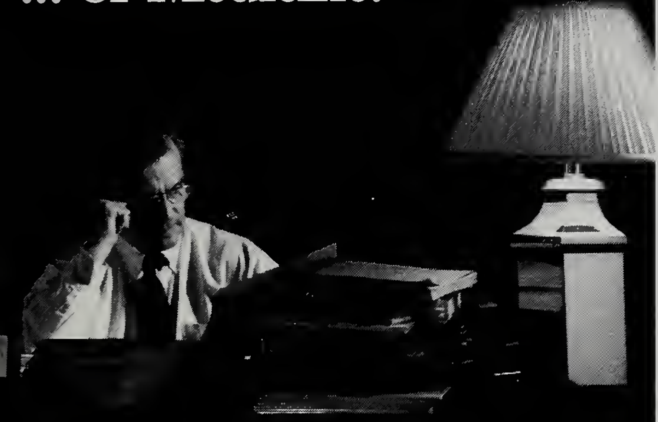

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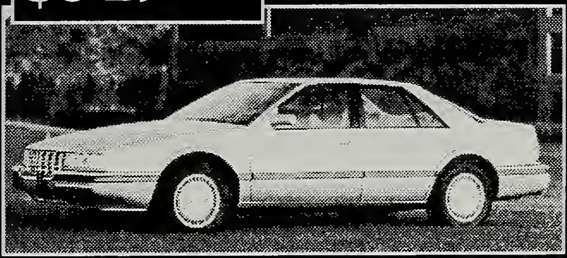

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REFLECTIONS ON "SOUL" AND MEDICAL ART

C. D. BESSINGER, JR., M. D.*

In a recent study, Eisenberg and others found that, "The frequency of use of unconventional therapy in the United States is far higher than previously reported." [1] Since many patients seek both "alternative" and medical therapies without revealing the fact, the physician and nonmedical healer are often "unwitting partners in health care." [2] The movement is clearly gaining public and political strength, for Congress recently established an Office of Alternative Medicine within the National Institutes of Health.[3] Campion has stated, "The public's expensive romance with unconventional medicine is cause for our profession to worry." [4]

There are many implications. Heretofore, the debate between science-based medicine and other approaches has been largely a philosophic one, motivated in part by concern that patients avoid harm. However, in view of its growing political appeal, surely there will be much pressure to include various alternative treatments in any new national health insurance system. That will starkly shift the issue to that of economic competition.

However, there are still deeper issues, which challenge our profession to examine itself. That could be painful to some extent, for any success for alternative medicine implies that, from the patient's point of view, something important is missing from the patient's encounter with the medical profession. But what could that be?

The answer I am suggesting will sound radical, perhaps even "alternative," and I broach the subject cautiously, gently, gingerly, fully acknowledging the risk that I may be misunderstood. Still, the answer begs to be heard. I suggest that what is missing, and what needs to be reclaimed for mainstream medicine, is that quality called *soul.* To reclaim it could profoundly influence our understanding of ourselves as healers, our approach to patient care, and patients' attitudes toward our work.

SOUL?

What is soul? The usual connotation of the word is religious, denoting that aspect of the human which relates to the divine and is "saved" (from the Greek σωζω, *sozo*) by religious faith and/or practice. That σωζω included the ideas of healing and restoration of well-being seems largely to have been lost today, even in religious circles.

Within science-based medicine, the word soul "does not compute." A Medline search shows that the word is seldom used in recent medical literature, and then mostly in a religious or historical context. It is also seen occasionally in abstracts of German language articles, presumably translating *Seele* which means both psyche and soul.

Dr. Albert Schweitzer wrote,

> No one can give a definition of the soul. But we know what it feels like. The soul is the sense of something higher than ourselves, something that stirs in us thoughts, hopes, and aspirations which go out to the world of goodness, truth and beauty. The soul is a burning desire to breathe in this world of light and never to lose it—to remain children of light.[5]

Psychotherapist Thomas Moore writes, "It is impossible to define precisely what the soul is... We know intuitively that soul has to do with genuineness and depth." He continues, "The great malady of the twentieth century, implicated in all of our troubles and affecting us individually and socially, is 'loss of soul.'" [6] In that sentiment, he echoes the theme implicit in the title of Carl G. Jung's 1933 book, *Modern Man in Search of a Soul.*[7]

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*Address correspondence to Dr. Bessinger at 10 Enterprise Blvd., Suite 107, Greenville, SC 29615.

In this article, I use the word soul to refer especially to medicine's collective sense of being involved in that "something higher," deep, and genuine which daily gives purpose and meaning to our work, and which inspires us to communicate the same sense to patients in our healing practice. If such soul has been lost in society generally, it would not be surprising that it should be lost in medicine as well; if both are true, we could expect that healing the healing profession would, in the process, make a substantial contribution to healing our sorely stressed society.

SOUL CARE

Doctoring the soul is the literal meaning of the word psychiatry, but psychiatry's dominant view of itself now is as a "medical" rather than a "talking" specialty. In a recent review article, Michels and Marzuk[8] write of the "profound transformation" in psychiatry's "major shift of paradigm;" in psychiatry, "The focus of research has shifted from the mind to the brain...." In essence, the pharmacologic treatment of mental illness has become so successful that psychiatry no longer needs to focus on psyche.

Patients with a developed spiritual or religious sense often express a concern that most modern medicine is hostile, or at least insensitive, to the soul aspect of life. Whether or not they have a developed religious sense, patients often present with a sense of spiritual "emptiness," especially at times of confronting major surgery or grave disease. Of course, "emptiness" is not a clinical diagnosis, and usually such patients do not want referral to a psychiatrist.

The obvious place for such patients to turn is to a trusted member of the clergy; but for many patients in our society, there is no such relationship. Many have abandoned traditional faith because of difficulty in believing what literalist traditions require them to believe; and many others have rejected, or been rejected by, their traditional faiths for reasons of lifestyle, such as nontraditional family structures.

Unspoken "spiritual" problems are often a factor in non-compliance with recommended clinical treatments, or in seeking unconventional therapies. Sometimes, such concerns may not become evident until they become overt illness (e.g. depression or stress syndromes), or social pathology (e.g. violent behavior and victimization of others). Both categories of problem have substantially increased in society during the two and a half decades in which I have been in surgical practice.

If we as physicians individually, or as a profession, are truly to offer a return to health and well-being to such patients, we must develop an appropriate concept and language for discussing such abstractions as "spiritual emptiness" during a medical encounter, and prepare ourselves to deal with the patients' responses.

PLACEBO POWER

Most of us recognize the placebo effect of medication. However, as the emphasis of medical practice has shifted to technology-based specialization, we have come to discount the "placebo effect" of a physician's personality. In a newspaper interview,[9] medical historian and author Edward Shorter of the University of Toronto spoke of medicine's general loss of skill in "evoking the placebo response" in interactions with patients. He indicates that the physician is often unaware of having such an effect. He attributes the effect to a high regard by the patient for the physician, and to the amount of time the physician spends listening to the patient; the loss of these qualities in medical practice has been accompanied by "the loss of medicine's therapeutic power."

The transference mechanism by which patient and physician relate is a complicated high-level effect, mostly unconscious, with both intra- and inter-personal dimensions. The doctor-patient relationship cannot be examined or explained at the molecular level! If something is wrong in medicine's collective interactions with patients, it must be a "soul-level" problem, involving our philosophic worldview, our attitudes about life and healing, and the unconscious dynamics of our own psyches.

HOLISM, OR PSEUDOHOLISM?

I have previously advocated that the "philosophic milieu" of medical practice,[10] and the basis of its ethical responses, should be the modern integrative whole-system worldview.[11] Yet, in today's intellectual climate, there are problems about calling such a worldview "holistic." The world of alternative medicine commonly describes itself as holistic, and places itself in opposition to medicine's reductive approach.

A true philosophy of the Whole cannot exclude reductive research, for it is research into detail which provides the data to compose the whole. A whole cannot exclude its parts. Usually, alternative medicine is not holistic at all, for it rejects or devalues the scientific and cognitive processes by which knowledge is gained and affirmed.

It must also be said that the medical profession, if it is to regain its soul, must not reject or devalue the intuitive "spiritual" element in composing its worldview. That human nature is based on soul is amply evident in the fullness of its expression in art and religion throughout all cultures and throughout all history. A psychology which deals only with the cognitive, behavioral, or molecular aspects of human functioning is a superficial psychology, devoid of the essence of being human.

Reason itself requires that medicine embrace the fullness of the human person and potential, and that it deal at depth with soul. If we do less, we fail to meet the imperatives of reason and of whole-system homeostatic process. In other words, we fail at healing. A healing approach which keeps both science and soul in homeostatic balance is fully holistic. A system which attempts to heal without soul is as out-of-balance as a system which attempts to heal without science.

WHAT NEXT?

Many corrective responses are already evident. There has been a wide expansion within the profession of awareness of bioethics issues. Engel[12] has advocated a multi-level biopsychosocial model of practice, which is being incorporated into patient-encounter training, especially by the American Academy on Physician and Patient.[13] Teaching of humanities[14] and interpersonal skills[15] is being successfully incorporated into medical school and post-graduate curricula, and many similar points could be cited.

What seems especially to be needed now is for the profession to bring these efforts into coherence under a common (and of course, non-sectarian) whole-systems worldview. If we are to adapt our healing approaches to meet the needs and expectations of modern people, we must consider that today, personal illness occurs within a complex and stressful society, which is more crowded, violent, and toxic than ever before.

In the past, it has been sufficient to apply the findings of reductive research to clinical practice. That remains essential, but now we must also learn to understand patients and ourselves in terms of the depth and breadth of large-system interactions, including those of that realm called psyche.

Reorientation of worldview, and finding both will and soul to undertake it, are philosophical problems. Medical philosophy has usually defined its concerns in terms of the traditional philosophic specialties, such as theory of knowledge, logic, ethics, and philosophic anthropology. However, that classification is not directly relevant clinically, and most clinicians are only vaguely aware that medical philosophy is an area of study.

A medical philosophy more germane to our current problems would foster synthesis of bioethics, humanities, general knowledge, depth psychology, and spirituality as they relate to patient experience, and would seek to expand such awareness throughout the profession. There are several important areas of knowledge which might especially help medical students and physicians prepare for "soul-full" practice:

—General systems theory, with emphasis on appropriateness of level of description;

—Worldview of the new physics, especially regarding nonlocal reality, uncertainty principle (indeterminism), and chaos theory;

—Concept of homeostatic personal wholeness, for patient and physician, especially as presented in analytical (Jungian) psychology;

—Basic interview and counseling skills, including transference issues and patient-healer interactions (illustrated by shaman, priest, and physician roles in literature);

—Illness from a patient's standpoint (patient and doctor in literature and especially in medical history);

—Human spirituality, and concepts of healing in mythology and various spiritual traditions (emphasizing unconscious dynamics and archetypal patterns rather than comparative doctrine).

This concept goes beyond psychosomatic medicine, though psychosomatic concerns are a subset within it. I do not suggest that a physician needs to be expert in each (or any) of these areas. However, there is reason to think that our relationships with patients would be substantially improved if we were sensitive to such issues, and looked for these dynamics at work in our practices and in our own lives.

By showing our interest, we would be "giving permission" for patients to discuss their soul concerns. We would be opening up new channels of communication and discussion, and would become better able to make appropriate prescriptive suggestions or referrals. We would better understand that many patients seeking alternative medicine are actually seeking alternative spirituality. We might even cool their "romance" with unconventional therapies. Perhaps most importantly, we would find again that there is healing value in merely letting patients know that we care about all of their concerns.

SUMMARY

What is missing, and what we would do well to reclaim for mainstream medicine, is that quality called "soul." To reclaim it could profoundly influence our understanding of ourselves as healers, our approach to patient care, and patients' attitudes toward our work. A medical philosophy which is germane to our current problems, would foster integration of bioethics, humanities, general knowledge, depth psychology, and spirituality as they relate to patient experience. By being sensitive to the "soul" issues of patients, we improve our ability to "evoke the placebo response" and to reduce patient interest in unconventional therapies. ❐

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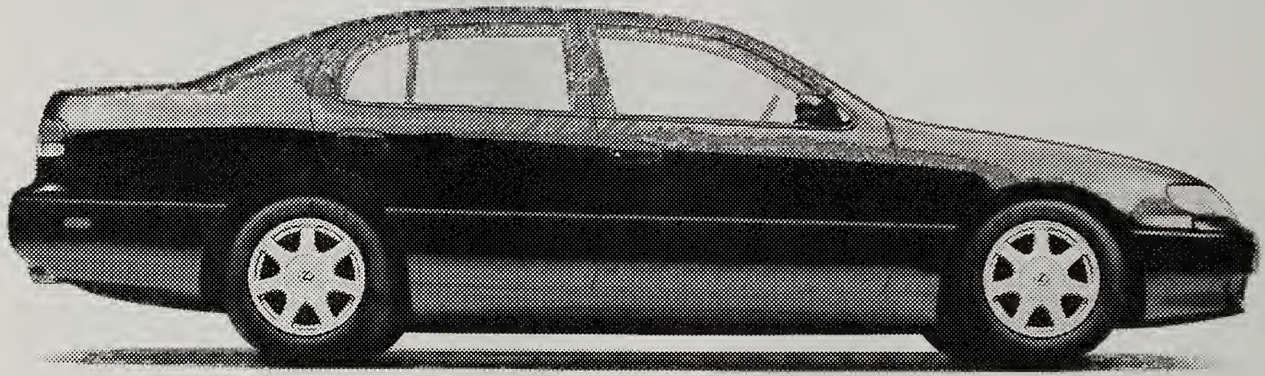

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THE PHYSICIAN'S ARMCHAIR GUIDE TO ADVANCE DIRECTIVES

STEPHEN P. WILLIAMS, J. D.*

Increasingly, physicians have reported confusion about South Carolina law concerning advanced directives for their patients. This article is a discussion of the various state laws which allow advance health care planning by citizens of our state, and of what the law requires of physicians caring for these patients.

BACKGROUND

Since 1986, South Carolinians have had available living wills authorized under state law. In 1992, the legislature approved a form for use as a health care power of attorney.

Federal legislation passed in 1991, referred to as the Patient Self-Determination Act, requires hospitals and nursing homes to provide information about these advance directives to patients on admission to the facility, regardless of age or illness.

LIVING WILLS

A living will in South Carolina is technically referred to as a "Declaration of a Desire for a Natural Death." Various versions of the official form have been used since 1986, the most recent form having been approved by the legislature in 1991 (See Form A).

Living wills are operational, or given effect, only when the patient, called the "declarant", has either a "terminal condition" under the law or is in a state of "permanent unconsciousness." "Terminal condition" means an incurable or irreversible condition that, within reasonable medical judgment, could cause death within a reasonably short period of time if life-sustaining procedures are not used. "Life-sustaining procedures" means any medical procedures or intervention which would serve only to prolong the dying process and where, in the judgment of the attending physician, death will occur whether or not the procedures are utilized. "Permanent unconsciousness" means a medical diagnosis that a person is in a persistent vegetative state or has some other irreversible condition in which the person has no neocortical functioning, but only involuntary or primitive reflex functions controlled by the brain stem.

In order to withhold or withdraw life-sustaining procedures, two physicians, one of whom is the attending physician, and one other physician who has personally examined the patient, must certify the patient's present condition meets the definition of "terminal condition" or "permanent unconsciousness." A certification of permanent unconsciousness cannot be made under law unless the declarant has remained unconscious for at least 90 consecutive days, or at any time before that if the patient has experienced massive destruction or atrophy of the cortex as evidenced by neurodiagnostic studies or gross inspection of the brain, or some other characteristic of the declarant's condition allows a diagnosis of permanent unconsciousness to be made with a high degree of medical certainty.

All patients with life-threatening conditions that are diagnosed as terminal or who are in a state of permanent unconsciousness must be administered active treatment for at least six hours following the original *diagnosis* of the terminal condition before effect can be given to a living will. The law does not require active treatment to be administered for six hours following *certification* of the terminal condition or admission to the hospital or other facility. Thus, the date and time of the original diagnosis of the patient's terminal illness should be noted in the chart as soon as possible.

Artificial nutrition and hydration administered through medically or surgically implanted tubes is considered a life-sustaining procedure subject to being withheld or withdrawn pursuant to a living will if the patient has indicated on the space provided within the form that artificial nutrition and hydration not be provided. Likewise, patients have the right to affirmatively indicate on the form they do wish to receive artificial nutrition and hydration. If the patient does not show a preference on the form, the law states artificial nutrition and hydration necessary for comfort care or alleviation of pain must be provided.

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*Address correspondence to Mr. Williams at the South Carolina Medical Association, PO Box 11188, Columbia, SC 29211-1188.

A living will can be revoked in numerous ways (see Form A) by the patient or by an agent named on the form who has the power to revoke. *However, no revocation is effective until it is communicated to the attending physician.*

Living wills are limited in that they are not flexible documents and only apply to some procedures that may be employed after a patient has been diagnosed as terminal. Living wills can also be difficult to execute properly. If the declarant is a patient in a hospital, nursing home, or other facility when the document is executed, the law requires a representative from the Governor's Ombudsman's Office be present. It is a good document to use if an individual has strong feelings about not receiving life-sustaining procedures and is not confident family members can carry out his or her desires.

HEALTH CARE POWERS OF ATTORNEY

In 1992, the South Carolina General Assembly approved a statutory form for a health care power of attorney. The Health Care Power of Attorney is perhaps the best instrument to use for future health care planning because it allows the patient, referred to as the "principal." to name a specific individual, called the "agent." to make all health care decisions for him or herself in the event the principal is unable to do so. Also, the patient does not have to have a terminal condition for the health care power of attorney to become operative.

The Health Care Power of Attorney is one type of "durable" power of attorney. At common law, a power of attorney was not effective if the principal became mentally incompetent. A durable power of attorney survives the incompetence of the principal. In fact most durable powers of attorney, including the one for health care, are effective *only* during the time of the principal's incapacity. This is true even if the disability preventing communication is one that will last only short term.

A health care power of attorney does not cover financial or other property interests of the principal unless it has been specifically modified to do so. It only allows the agent to make decisions regarding the principal's health care.

South Carolina physicians should become familiar with the health care power of attorney form. (Form B) Note the specialized areas on the form allowing the principal to list specific powers granted to the agent, to list wishes about organ and tissue donation, instructions involving life-sustaining procedures, and tube feeding. The Health Care Power of Attorney is a powerfully adaptive instrument that allows an agent to make decisions using written evidence of what the principal would have intended. It allows virtually all decisions regarding health care to be made by an individual trusted by the principal to make the correct decision.

In situations where a patient has both a health care power of attorney and a living will, which document controls? The law states the living will takes precedence in situations where it applies, that is if the declarant has a terminal condition or is in a state of permanent unconsciousness and the decision to be made concerns life-sustaining procedures. This may or may not be what the declarant intended. In this instance, operation of the living will takes all discretion away from the agent named in the health care power of attorney. If the declarant wanted to be sure he would not receive life sustaining procedures, and felt the agent may not be able to comply with that desire, having both documents would assure the declarant's wishes were not vetoed by his agent. This is likely the only situation where having both documents is advisable.

In order for the agent to assume authority to act on the patient's behalf, the patient's mental incompetence must be certified according to the provisions of the Adult Health Care Consent Act. This requires a certification by two physicians, each of whom has examined the patient, that the patient is unable to appreciate the nature and implications of his or her condition and proposed health care, or is unable to make a reasoned decision concerning proposed health care, or is unable to communicate decisions about health care in a clear and unambiguous manner.

The law also requires that one certifying physician note in the record the cause and nature of the mental incompetence, its extent, and its probable duration.

ADULT HEALTH CARE CONSENT ACT

Although not included as an "advance directive", it is important for South Carolina physicians to know about the Adult Health Care Consent Act.

This act allows decisions about health care to be made by other people (so called "surrogates") in the event a patient is unable to communicate with health care providers and has no written advance document such as a living will or health care power of attorney.

Like a health care power of attorney, the patient does not have to be in a terminal state or permanently unconscious for the act to apply. The patient has to be unable to consent, meaning unable to appreciate the nature and implications of his or her condition and proposed health care, unable to make a reasoned decision concerning health care, or to communicate the decision in an unambiguous manner.

A list of persons with priority to make health care decisions is set out in the act, and should be incorporated into hospital protocol flowsheets to ensure compliance. The act requires two physicians certify the inability of the patient to consent, each of whom has examined the patient. One certifying physician must also note in the patient's chart the cause and nature of the inability to consent, its extent, and its probable duration. The act provides immunity from liability for good faith reliance on a health care decision made by a person with priority to make a decision under the act. This act allows health care to be provided as well as withdrawn or refused. Nothing in the act requires consent for emergency treatment.

If a physician or other health care worker has actual knowledge that the patient did not want a person with priority to be involved in decisions regarding health care, the decision does not have to be followed, as is the case if the physician or health care worker knows proposed treatment or non-treatment is adverse to the religious beliefs of the patient or prior unambiguous and uncontradicted expressed desires of the patient.

WHY SHOULD PHYSICIANS KNOW ABOUT THESE LAWS?

The legislature gave long consideration to the Death With Dignity Act, The Health Care Power of Attorney Act, and the Adult Health Care Consent Act. The SCMA lobbied vigorously at the legislative committee hearings and on the floor of both houses that two issues were paramount if the advanced directives authorized by these acts were to be useful. First, the decision about when the documents were to be given effect must be a decision made by medical personnel who are providing care to the patient and second, the law must provide tort immunity to the providers who follow the requirements of the law.

The legislature agreed and has provided physicians and other caregivers with extensive immunity from suits by patients' families and from disciplinary actions by licensing bodies. In this litigious era, physicians should take every opportunity to avail themselves of this protection. Knowing exactly what these laws are designed to do and making sure there are procedures in place at critical care facilities to ensure compliance is not only an effective risk management procedure, it also establishes a priority consistent with the highest ethical standards of the medical profession which honors the wishes of patients with dignity and respect. ❐

SOUTH CAROLINA ADVANCE DIRECTIVES IN A NUTSHELL

LIVING WILLS	• apply only to life-sustaining procedures when patient is in terminal condition or state of permanent unconsciousness • require two MDs to certify terminal condition; one must be attending • must provide active treatment six hours after initial diagnosis of terminal condition • must be 18 years old • not operative during pregnancy • if signed by patient in health care facility, Governor's Ombudsman must be present • immunity for providers following law
HEALTH CARE POWER OF ATTORNEY	• applies to all health care decisions • operative only when patient cannot communicate wishes about health care to providers • has directives about tube feeding, organ donation, specific powers to agent on form • must be 18 years old • agent cannot order life-sustaining treatment withdrawn or withheld during pregnancy, but agent can make decisions concerning obstetrical or other care • immunity for providers following law
ADULT HEALTH CARE CONSENT ACT	• applies to all health care decisions when no written document present and patient cannot communicate with providers • list of surrogates in statute • applies to provision and withdrawl of care • does not apply to minors or emergencies • immunity for providers following law

1991 Form

FORM A
DECLARATION OF A DESIRE FOR A NATURAL DEATH

STATE OF SOUTH CAROLINA COUNTY OF ______________________

I,______________________________, Declarant, being at least eighteen years of age and a resident of and domiciled in the City of ________________, County of ______________ , State of South Carolina, make this Declaration this ____ day of ______________, 19 ____.

I willfully and voluntarily make known my desire that no life-sustaining procedures be used to prolong my dying if my condition is terminal or if I am in a state of permanent unconsciousness, and I declare: If at any time I have a condition certified to be a terminal condition by two physicians who have personally examined me, one of whom is my attending physician, and the physicians have determined that my death could occur within a reasonably short period of time without the use of life-sustaining procedures or if the physicians certify that I am in a state of permanent unconsciousness and where the application of life-sustaining procedures would serve only to prolong the dying process, I direct that the procedures be withheld or withdrawn, and that I be permitted to die naturally with only the administration of medication or the performance of any medical procedure necessary to provide me with comfort care.

INSTRUCTIONS CONCERNING ARTIFICIAL NUTRITION AND HYDRATION

INITIAL ONE OF THE FOLLOWING STATEMENTS

If my condition is TERMINAL and could result in death within a reasonably short time,

_______ I direct that nutrition and hydration BE PROVIDED through any medically indicated means, including medically or surgically implanted tubes.

OR

_______ I direct that nutrition and hydration NOT BE PROVIDED through any medically indicated means, including medically or surgically implanted tubes.

INITIAL ONE OF THE FOLLOWING STATEMENTS

If I am in a PERSISTENT VEGETATIVE STATE or other condition of permanent unconsciousness,

_______ I direct that nutrition and hydration BE PROVIDED through any medically indicated means, including medically or surgically implanted tubes.

OR

________ I direct that nutrition and hydration NOT BE PROVIDED through any medically indicated means, including medically or sugically implanted tubes.

In the absence of my ability to give directions regarding the use of life-sustaining procedures, it is my intention that this Declaration be honored by my family and physicians and any health facility in which I may be a patient as the final expression of my legal right to refuse medical or surgical treatment, and I accept the consequences from the refusal.

I am aware that this Declaration authorizes a physician to withhold or withdraw life-sustaining procedures. I am emotionally and mentally competent to make this Declaration.

APPOINTMENT OF AN AGENT (OPTIONAL)

1. You may give another person authority to REVOKE this declaration on your behalf. If you wish to do so, please enter that person's name in the space below.

Name of Agent with Power to Revoke:____
Address: ____
Telephone Number: ____

2. You may give another person authority to ENFORCE this declaration on your behalf. If you wish to do so, please enter that person's name in the space below.

Name of Agent with Power to Enforce: ____
Address: ____
Telephone Number: ____

(over)

REVOCATION PROCEDURES

THIS DECLARATION MAY BE REVOKED BY ANY ONE OF THE FOLLOWING METHODS. HOWEVER, A REVOCATION IS NOT EFFECTIVE UNTIL IT IS COMMUNICATED TO THE ATTENDING PHYSICIAN.

(l) BY BEING DEFACED, TORN, OBLITERATED, OR OTHERWISE DESTROYED, IN EXPRESSION OF YOUR INTENT TO REVOKE, BY YOU OR BY SOME PERSON IN YOUR PRESENCE AND BY YOUR DIRECTION. REVOCATION BY DESTRUCTION OF ONE OR MORE OF MULTIPLE ORIGINAL DECLARATIONS REVOKES ALL OF THE ORIGINAL DECLARATIONS.

(2) BY A WRITTEN REVOCATION SIGNED AND DATED BY YOU EXPRESSING YOUR INTENT TO REVOKE.

(3) BY YOUR ORAL EXPRESSION OF YOUR INTENT TO REVOKE THE DECLARATION. AN ORAL REVOCATION COMMUNICATED TO THE ATTENDING PHYSICIAN BY A PERSON OTHER THAN YOU IS EFFECTIVE ONLY IF:

(A) THE PERSON WAS PRESENT WHEN THE ORAL REVOCATION WAS MADE;

(B) THE REVOCATION WAS COMMUNICATED TO THE PHYSICIAN WITHIN A REASONABLE TIME;

(C) YOUR PHYSICAL OR MENTAL CONDITION MAKES IT IMPOSSIBLE FOR THE PHYSICIAN TO CONFIRM THROUGH SUBSEQUENT CONVERSATION WITH YOU THAT THE REVOCATION HAS OCCURRED. TO BE EFFECTIVE AS A REVOCATION, THE ORAL EXPRESSION CLEARLY MUST INDICATE YOUR DESIRE THAT THE DECLARATION NOT BE GIVEN EFFECT OR THAT LIFE-SUSTAINING PROCEDURES BE ADMINISTERED.

(4) IF YOU, IN THE SPACE ABOVE, HAVE AUTHORIZED AN AGENT TO REVOKE THE DECLARATION, THE AGENT MAY REVOKE ORALLY OR BY A WRITTEN, SIGNED, AND DATED INSTRUMENT. AN AGENT MAY REVOKE ONLY IF YOU ARE INCOMPETENT TO DO SO. AN AGENT MAY REVOKE THE DECLARATION PERMANENTLY OR TEMPORARILY.

(5) BY YOUR EXECUTING ANOTHER DECLARATION AT A LATER TIME.

Signature of Declarant ______________________________

AFFIDAVIT

STATE OF ______________________ COUNTY OF ______________________

We, ______________________ and ______________________
the undersigned witnesses to the foregoing Declaration, dated the ______ day of __________, 19 ____, at least one of us being first duly sworn, declare to the undersigned authority, on the basis of our best information and belief, that the Declaration was on that date signed by the declarant as and for his DECLARATION OF A DESIRE FOR A NATURAL DEATH in our presence and we, at his request and in his presence, and in the presence of each other, subscribe our names as witnesses on that date. The declarant is personally known to us, and we believe him to be of sound mind. Each of us affirms that he is qualified as a witness* to this Declaration under the provisions of the South Carolina Death with Dignity Act in that he is not related to the declarant by blood, marriage, or adoption either as a spouse, lineal ancestor, descendant of the parents of the declarant, or spouse of any of them; nor directly financially responsible for the declarant's medical care; nor entitled to any portion of the declarant's estate upon his decease, whether under any will or as an heir by intestate succession; nor the beneficiary of a life insurance policy of the declarant; nor the declarant's attending physician; nor an employee of the attending physician; nor a person who has a claim against the declarant's decedent's estate as of this time. No more than one of us is an employee of a health facility in which the declarant is a patient. If the declarant is a resident in a hospital or nursing care facility at the date of execution of this Declaration, at least one of us is an ombudsman designated by the State Ombudsman, Office of the Governor.

____
Witness

____
Witness*

Subscribed before me by ______________________, the declarant, and subscribed and sworn to before me by ______________________, the witness(es), this ____ day of ______________, 19 ____.

____
Signature of Notary Public
Notary Public for ______________________
My Commission expires ______________________
(SEAL)

*If qualified as a witness, the Notary Public may serve as a witness.

SC Code of Laws Sec. 44-77-10 (Rev. 6/91)

FORM B

HEALTH CARE POWER OF ATTORNEY

(South Carolina Statutory Form, Code of Laws Section 62-5-504)

1. DESIGNATION OF HEALTH CARE AGENT

I, ____, hereby appoint
(Principal)

____
(Agent)

____
(Address)

____

Home Telephone: ______________Work Telephone:______________as my agent to make health care decisions for me as authorized in this document.

2. EFFECTIVE DATE AND DURABILITY

By this document I intend to create a durable power of attorney effective upon, and only during, any period of mental incompetence.

3. AGENT'S POWERS

I grant to my agent full authority to make decisions for me regarding my health care. In exercising this authority, my agent shall follow my desires as stated in this document or otherwise expressed by me or known to my agent. In making any decision, my agent shall attempt to discuss the proposed decision with me to determine my desires if I am able to communicate in any way. If my agent cannot determine the choice I would want made, then my agent shall make a choice for me based upon what my agent believes to be in my best interests. My agent's authority to interpret my desire is intended to be as broad as possible, except for any limitations I may state below.

Accordingly, unless specifically limited by Section E, below, my agent is authorized as follows:

A. To consent, refuse, or withdraw consent to any and all types of medical care, treatment, surgical procedures, diagnostic procedures, medication, and the use of mechanical or other procedures that affect any bodily function, including, but not limited to, artificial respiration, nutritional support and hydration, and cardiopulmonary resuscitation;

B. To authorize, or refuse to authorize, any medication or procedure intended to relieve pain, even though such use may lead to physical damage, addiction, or hasten the moment of, but not intentionally cause, my death;

C. To authorize my admission to or discharge, even against medical advice, from any hospital, nursing care facility, or similar facility or service;

D. To take any other action necessary to making, documenting, and assuring implementation of decisions concerning my health care, including, but not limited to granting any waiver or release from liability required by any hospital, physician, nursing care provider, or other health care provider; signing any documents relating to refusals of treatment or the leaving of a facility against medical advice, and pursuing any legal action in my name, and at the expense of my estate to force compliance with my wishes as determined by my agent, or to seek actual or punitive damages for the failure to comply.

E. The powers granted above do not include the following powers or are subject to the following rules or limitations: ______________________________________
____
____
____

4. ORGAN DONATION (INITIAL ONLY ONE)
My agent may _____; may not _____ consent to the donation of all or any of my tissue or organs for purposes of transplantation.

5. EFFECT ON DECLARATION OF A DESIRE FOR A NATURAL DEATH (LIVING WILL)
I understand that if I have a valid Declaration of a Desire for a Natural Death, the instructions contained in the Declaration will be given effect in any situation to which they are applicable. My agent will have authority to make decisions concerning my health care only in situations to which the Declaration does not apply.

6. STATEMENT OF DESIRES AND SPECIAL PROVISIONS
With respect to any Life-Sustaining Treatment, I direct the following: (INITIAL ONLY ONE OF THE FOLLOWING 4 PARAGRAPHS)

(l) ______ GRANT OF DISCRETION TO AGENT. I do not want my life to be prolonged nor do I want life-sustaining treatment to be provided or continued if my agent believes the burdens of the treatment outweigh the expected benefits. I want my agent to consider the relief of suffering, my personal beliefs, the expense involved and the quality as well as the possible extension of my life in making decisions concerning life-sustaining treatment.

OR

(2) ______ DIRECTIVE TO WITHHOLD OR WITHDRAW TREATMENT. I do not want my life to be prolonged and I do not want life-sustaining treatment:
a. if I have a condition that is incurable or irreversible and, without the administration of life-sustaining procedures, expected to result in death within a relatively short period of time;
or
b. if I am in a state of permanent unconsciousness.

OR

(3) ______ DIRECTIVE FOR MAXIMUM TREATMENT. I want my life to be prolonged to the greatest extent possible, within the standards of accepted medical practice, without regard to my condition, the chances I have for recovery, or the cost of the procedures.

OR

(4) ______ DIRECTIVE IN MY OWN WORDS:____________________________
____
____
____
____

7. STATEMENT OF DESIRES REGARDING TUBE FEEDING
With respect to Nutrition and Hydration provided by means of a nasogastric tube or tube into the stomach, intestines, or veins, I wish to make clear that: (INITIAL ONLY ONE)

_______ I do not want to receive these forms of artificial nutrition and hydration, and they may be withheld or withdrawn under the conditions given above.

OR

_______ I do want to receive these forms of artificial nutrition and hydration.

IF YOU DO NOT INITIAL EITHER OF THE ABOVE STATEMENTS, YOUR AGENT WILL NOT HAVE AUTHORITY TO DIRECT THAT NUTRITION AND HYDRATION NECESSARY FOR COMFORT CARE OR ALLEVIATION OF PAIN BE WITHDRAWN.

8. SUCCESSORS

If an agent named by me dies, becomes legally disabled, resigns, refuses to act, becomes unavailable, or if an agent who is my spouse is divorced or separated from me, I name the following as successors to my agent, each to act alone and successively, in the order named.

A. First Alternate Agent: ____

Address: ____

______________________________Telephone: __________________

B. Second Alternate Agent: ____

Address: ____

______________________________Telephone: __________________

9. ADMINISTRATIVE PROVISIONS

a. I revoke any prior Health Care Power of Attorney and any provisions relating to health care of any other prior power of attorney.

b. This power of attorney is intended to be valid in any jurisdiction in which it is presented.

10. UNAVAILABILITY OF AGENT

If at any relevant time the Agent or Successor Agents named herein are unable or unwilling to make decisions concerning my health care, and those decisions are to be made by a guardian, by the Probate Court, or by a surrogate pursuant to the Adult Health Care Consent Act, it is my intention that the guardian, Probate Court, or surrogate make those decisions in accordance with my directions as stated in this document.

BY SIGNING HERE I INDICATE THAT I UNDERSTAND THE CONTENTS OF THIS DOCUMENT AND THE EFFECT OF THIS GRANT OF POWERS TO MY AGENT.

I sign my name to this Health Care Power of Attorney on this ____ day of ________, 19____. My current home address is: ______________________________________

____

Signature: ____

Print Name: ____

(Witness Statement, Over)

WITNESS STATEMENT

I declare, on the basis of information and belief, that the person who signed or acknowledged this document (the principal) is personally known to me, that he/she signed or acknowledged this Health Care Power of Attorney in my presence, and that he/she appears to be of sound mind and under no duress, fraud, or undue influence.

I am not related to the principal by blood, marriage, or adoption, either as a spouse, a lineal ancestor, descendant of the parents of the principal, or spouse of any of them. I am not directly financially responsible for the principal's medical care. I am not entitled to any portion of the principal's estate upon his/her decease, whether under any will or as an heir by intestate succession, nor am I the beneficiary of an insurance policy on the principal's life, nor do I have a claim against the principal's estate as of this time. I am not the principal's attending physician, nor an employee of the attending physician. No more than one witness is an employee of a health facility in which the principal is a patient. I am not appointed as Health Care Agent or Successor Health Care Agent by this document.

Witness No. 1:

Signature:________________________________ Date: ______________________

Print Name: ________________________________Telephone:__________________

Residence Address: ____

____

Witness No. 2:

Signature: ________________________________ Date: ______________________

Print Name: ________________________________Telephone:__________________

Residence Address: ____

____

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FORM B

HEALTH CARE POWER OF ATTORNEY
(South Carolina Statutory Form, Code of Laws Section 62-5-504)

INFORMATION ABOUT THIS DOCUMENT

This is an important legal document. Before signing this document, you should know these important facts:

1. This document gives the person you name as your agent the power to make health care decisions for you if you cannot make the decisions for yourself. This power includes the power to make decisions about life-sustaining treatment. Unless you state otherwise, your agent will have the same authority to make decisions about your health care as you would have.

2. This power is subject to any limitations or statements of your desires that you include in this document. You may state in this document any treatment you do not desire or treatment you want to be sure you receive. Your agent will be obligated to follow your instructions when making decisions on your behalf. You may attach additional pages if you need more space to complete the statement.

3. After you have signed this document, you have the right to make health care decisions for yourself if you are mentally competent to do so. After you have signed this document, no treatment may be given to you or stopped over your objection if you are mentally competent to make that decision.

4. You have the right to revoke this document, and terminate your agent's authority, by informing either your agent or your health care provider orally or in writing.

5. If there is anything in this document that you do not understand, you should ask a social worker, lawyer, or other person to explain it to you.

6. This power of attorney will not be valid unless two persons sign as witnesses. Each of these persons must either witness your signing of the power of attorney or witness your acknowledgement that the signature on the power of attorney is yours.

   The following persons may not act as witnesses:
   A. Your spouse; your children, grandchildren, and other linear descendants; your parents, grandparents, and other linear ancestors; your siblings and their linear descendants; or a spouse of any of these persons.
   B. A person who is directly financially responsible for your medical care.
   C. A person who is named in your will, or, if you have no will, who would inherit your property by intestate succession.
   D. A beneficiary of a life insurance policy on your life.
   E. The persons named in the Health Care Power of Attorney as your agent or successor agent.
   F. Your physician or an employee of your physician.
   G. Any person who would have a claim against any portion of your estate (persons to whom you owe money).

   If you are a patient in a health facility, no more than one witness may be an employee of that facility.

7. Your agent must be a person who is 18 years old or older and of sound mind. It may not be your doctor or any other health care provider that is now providing you with treatment; or an employee of your doctor or provider; or a spouse of the doctor, provider, or employee; unless the person is a relative of yours.

8. You should inform the person that you want him or her to be your health care agent. You should discuss this document with your agent and your physician and give each a signed copy. If you are in a health care facility or a nursing care facility, a copy of this document should be included in your medical record.

Editorials

Guest editorials reflect the opinions of the authors and do not necessarily reflect the opinions of the Editorial Board or the leadership of the South Carolina Medical Association.

LAPAROSCOPIC APPLICATIONS IN ADULT AND PEDIATRIC UROLOGY

The difficulty with extensive reviews of a new surgical technique is that the distinction between presently accepted indications in a rapidly evolving field and the potential applications for the technique can sometimes be confused.

Laparoscopic surgery is appropriate and effective for benign disease. This has been well demonstrated. In urology the nonpalpable testicle and the varicocele would fit into this category.

In our practice of pediatrics, we now exclusively use laparoscopy for the non-palpable testicle. We prefer using the open Hassan technique, for all laparoscopy but especially in children, as it leaves less room for error in comparison to the blind Verres needle technique. Laparoscopy prior to any incision usually prevents the need for laparotomy and helps in planning the operative approach.[1,2]

The use of laparoscopy for the routine varicocele has been well described in several series always with some additional refinement such as the use of laser or the Doppler probe.[3-6] There is some controversy in the use of the procedure in that the veins often truncate and the anatomy is not constant in the retroperitoneum.[7] One could conceivably miss several vessels distal to the point of laparoscopic ligation such as branches to the internal iliac vein and the external iliac vein. Also, traditional varicocele ligation is done usually under local but occasionally with regional or general anesthesia as an outpatient. Laparoscopy necessitates the use of general anesthesia. Return to work is usually not significantly delayed as no fascial planes are disrupted but laparoscopic patients most likely return earlier.

The use of laparoscopy in the field of malignant disease is much more controversial. The technique is well described in regard to the pelvic lymph node dissection and prostate cancer and urologists have really led the field in its use in malignant disease. Its use in other malignant diseases has been described[8-10] but pelvic lymph node dissection for staging of prostate cancer seems to dominate the urological literature.[11-14]

The routine use of laparoscopy for clinically localized prostate cancer has recently been brought into question as there is an extremely low (5.7%) incidence of nodal metastasis in currently diagnosed cases.[15] In the current paper the rate of positive nodes was 0% (0/23) as all had therapy for localized disease and presumably had negative nodes.[16] As any urologist can tell you, the discussion with the patient regarding staging and treatment can be very complicated with no uniform "right" approach. Although there might be an increasing role in the use of laparoscopy in order to asses lymph node status prior to any therapy,[17] in our practice we limit the use of the technique (Laparoscopic pelvic lymph node dissection) to patients with negative bone scans and high PSAs as we feel that will identify patients with positive nodes and save them either radiation or a second operation and we will treat them with hormonal therapy.

The further uses of laparoscopy in the area of malignant disease are somewhat limited and this is closer to a "wish list" for the technique. There have been reports of the use of laparoscopy in other cancers but there also are reports of metastatic seeding of tumor at the laparoscopic port sites.[18,19] Penile and urethral cancer are rare with no consensus as to therapy or care and there indeed may be some use for this technique to sample the pelvic nodes prior to any groin node dissection. The use is testicular cancer is interesting although I have yet to see any published data. Again like penile and urethral cancer, it is relatively uncommon and great strides have been made in the area of traditional retroperitoneal lymph node dissection in regards to sparing the sympathetic trunks and preservation of potency.

Last, there has been interest in nephrectomy, but operative times are in the order of three fold greater in comparison to standard techniques and it seems to be a technique that has rather limited applications such as small scarred kidneys or other benign renal conditions and not for cancer-containing kidneys at the present time.[20] There also may be some applicability to the unroofing of lymphoceles in the post-transplant patient to allow the lymphocele to drain internally but again there are not large numbers of these patients. In a recent review of urologists trained in the technique of laparoscopy, relatively few patients were identified by respondents to be suitable candidates for laparoscopy.[21]

As in the words of Drs. Winfield and Donavan, we may be at the tip of a large iceberg in regard to laparoscopic surgery or if one believes the local press, at least in regard to the management of prostate cancer and the use of laparoscopic pelvic lymph node dissection, we may be riding along on the Titanic.[22,23]

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ED. NOTE: Dr. Killeen's current address is 168 Kinsley Street, Suite 20, Nashua, NH 03060.

SOCIALIZED LUMBER

My friend was quite sincere when soon after Medicare started he asked how I felt about Medicare. I asked what he did for a living. He replied, "Sell lumber." I asked, "You don't have any trouble collecting for that lumber?" He replied "That's my main job." I then asked what he would do if the Government were to pay for lumber. "I would sell lumber," was his reply.

The analogy occurred to me. What would happen if the Government socialized lumber? The steps are logical and might clear up everyone's thinking.

The first step was scrap lumber. My friend had always given scrap lumber to his poor neighbors to burn for fuel. The Government came to say he was evil for giving away lumber. He said, "My religion advises me to help my fellow man." The Government said he was belittling his fellow man and should charge for the scrap. Of course the Government complained he was charging too much. He replied that the paperwork of collecting for the scrap cost more than it cost to give it away. The Government held firm and threatened him with fine or imprisonment if he failed to cooperate.

He pulled his records and checked on the lumber he had been selling to eligible people. They had averaged buying lumber three times a year. The Government went to all the people and told them they could only buy lumber once a month.

Of course the customers all started coming once a month. It didn't seem to matter that they didn't need lumber. It was policy they come once a month.

He noted friends in other lumberyards tried to cooperate by accepting assignments. This infuriated the Government and anyone who accepted assignments was suspected of being dishonest. Their records were studied with a fine toothed comb. They were threatened with fines or prison.

The Government saw that a lot of money was being spent. They decided to make rules and form a committee to enforce those rules. My friend refused to sign an order terminating lumber supply to some customers. The Government never let the customer know it was a Government rule but notified the customer that my friend had decided their lumber be cut off. For the next year they continued to send out notices using my friend's name. Needless to say he lost customers many of whom still think he was responsible for the cut-off. I guess this partially explains why lumber men are so hated until this day.

Originally lumber was cut in the woods one day and sold the next. It had no time to dry. My friend explained that nailed inside a house it would dry in place. To dry the lumber first added to the cost and did not make it any stronger. The Government decreed that lumber must all be kiln dried before it could be sold. To keep the price down the Government put a ceiling on what could be charged by lumberyards. This applied especially to old established businesses in the rural area. New businesses could charge whatever they wished. When my friend complained he was told he was GREEDY. For a while he sold no government lumber as he couldn't stay in business at the rate allowed. The Government came to the rescue. They announced publicly they were going to raise the allowed charges. He was allowed to charge approximately half what was allowed at the State Capital. The Government raised everyone's allowed charges by 10 percent. They said they didn't want to discriminate. They explained the difference on past charges (before kiln drying). My friend got letters from the State Lumber Association asking him to "cooperate" and care for eligible people. The fact that this was financially impossible was never considered.

After years of complaints he went to the Civil Rights Commission to see if he could get discrimination against old and rural lumberyards stopped. He was told that since he was not of a minority race, he had no civil rights.

In January 1992 the Relative Value Scale was started. He was now able to charge the same as the rest of the state. Of course his competitor in the next town couldn't charge that much as he had not written any letters.

The proposals to pay for Government Lumber include the following:

1. Tax Lumber Salesmen to pay for all the lumber. This seems like taking your arms and lifting yourself off the ground.
2. Limit the profit paid to Lumber Salesmen. That works in Canada. When they reach the limit of their earnings they go on vacation. What people do for lumber while they are gone remains a mystery. Maybe nobody cares.
3. Under no circumstances limit the amount of lumber a person can buy. If they already have three Gazebos they are entitled to more. If they are dying, let them build a house they will not live to enjoy.
4. Get lawyers. The legal profession has run the price of lumber to astronomical heights. They sue if the lumber breaks. If on the other hand it holds they sue because the man was able to hang himself from the lumber. If the people who live in the house are not happy they sue the man who provided the lumber to build the house.
5. Explain to the public that the excess cost of lumber is all due to lumber men, Assure them that their demand for free lumber had nothing to do with it.
6. Allow the people to get all the lumber they want at night and on holidays from Emergency Lumber Salesrooms. As these businesses are liable to suits the cost of this lumber must be ten times that of regular lumberyards. It all has to be studied for termites, dry rot, pesticides, Dutch Elm Disease, and have its breaking strength measured and recorded.
7. When looking for ways to reduce the cost of lumber be sure the lumber men are not allowed to speak. After all they are the cause of all the problems.

Without some limit to the use of lumber the price will soar. A small improvement would be to tell everyone the truth. Overuse, not greedy salesmen, has run the price of lumber up. Shooting all the salesmen will not control prices. Why not encourage the old and rural with competitive fees instead of paying city providers four time that amount. The hassle applied to high chargers might be more effective than applied to the old and weak. Granted the political clout encourages the opposite.

I hope this analogy will point out some of the problems with medical care. Honesty and good will would help control costs more than finger pointing.

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THE SOUL OF MEDICINE

This issue of *The Journal* features yet another thoughtful essay by Dr. C. D. Bessinger, who suggests ways by which we might get in touch with the "soul" of medicine. "Soul" is not an easy word to define. But neither is "professionalism." And the two may be inseparable.

Through the cacophonous strains of today's health care debate runs a common theme: Are physicians really different from other health care providers? Put differently, what do physicians offer that others don't or can't? Technicians can perform procedures; librarians can furnish information; social workers can address problems; and everyone can care. To search our souls for the answer is to seek the basis of our professionalism.

I think back to the college day when I announced my acceptance to medical school at the dinner table. One classmate chimed: "If I had more than one life, I might be a doctor in this one. The problem with medicine is that you have to sell your *life* to it!" Medicine has seemed to me to differ from most other occupations by the extent of the commitment, the no-going-back. Yet even this aspect may be changing. Are there grounds for faith in our profession?

In his book *The Care of the Soul*, Thomas Moore points out that faith has three components: belief, doubt, and trust.[1] The same might be said for the care of professionalism. We must have the courage *to believe* in our profession. We must have the courage *to doubt* whether our way is always the best one. We must have the courage *to trust* that what is good for society in the long run is also good for us.

Moore suggests that caring for the soul is best done not by asking deep philosophical questions but rather by paying close attention to the small details of everyday life. What makes our life and work as physicians so unique and special is the nature of our covenant with our fellow humans. As Edmund and Alice Pelligrino put it,

> when all is said and done, the patient is dependent upon the character, the trustworthiness, the moral sensitivity, and the resources of the physician. This is understandably difficult to accept in an egalitarian and democratic age, but it is ultimately inescapable.[2]

"Soul" and "professionalism"—how difficult to define, yet how essential! Seeking solutions for our own place and time should be a collective enterprise for which there is only one appropriate forum: our medical organizations. The refrain is familiar: *join and participate!*

—CSB

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Letters to the Editor

THE INADEQUATE PERSONALITY

To the Editor:

Margaret C. had Von Recklinhauser's disease. Her body was covered with nodules 1 or 2 cm in diameter. More disabling was her approach to life. She was totally at my mercy. She seemed incapable of making decisions. She was illiterate. Over the years she developed neurological changes with tumors growing in her brain. Neuro-surgeons are not noted for their tact. Her consultant was so disturbed by her total inadequacy that he told her "I'm ashamed of you and God's ashamed of you also." Over time we were able to get her enrolled in adult education. It gradually dawned on her that her lumps were just lumps and that she could function in this world. Regrettably she eventually died of the tumors in her brain. At the time of her death she was showing much improvement.

In an old movie a wedding guest is referred to as "poor Grace." The reference is obviously to a person who does not function. Over the years a number of "Inadequate Personalities" have been seen. In looking for the cause of this disability a common thread presents itself. These people are perceived by their caregiver as "inadequate." The reason for this perception may be a physical handicap, lack of attractiveness, or a psychological problem. Many physically challenged individuals do surprisingly well overcoming handicaps and finishing school in the top of their class. Inadequate personality patients have been taught from infancy that they can't.

Margaret was not taken to school because the family felt she could not learn because she was lumpy. It would be impossible for her to become self-sufficient when no one would let her try.

Bud A. suffered from inadequate personality. When first seen it was difficult to get his attention. He had always been taught he could not so he couldn't. He had a degree of depression. On antidepressants he began to respond. He had begun to take charge of his life, get a job, and get over his feeling of inadequacy.

He was seen by the mental health clinic who found he had gastrointestinal complaints and referred him to a gastroenterologist. He put him on Librax which completely destroyed any ambition he had developed.

The point of this communication is to identify a problem that can be treated. Also to point out the pitfalls of using tranquilizers in people who feel inadequate.

I have seen inadequate people who were not attractive in appearance. I have seen them who were the child of a former wife. The second wife wasn't aware that she was causing a problem by rearing the child as inadequate. My plea is to recognize that inadequate people are not that way out of willfullness. They have been taught since infancy that they "can't" and they can't. If given a chance they can function. The trick is to get them busy with a reform program of work and study.

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On the Cover:

THE AMERICAN RED CROSS

Featured on this month's cover is a photograph of a Charleston dock around the time of the first World War. People pictured seem to be Red Cross personnel, nurses and volunteers, and soldiers. If anyone can supply more definite information on this photograph, please contact me at the Waring Historical Library, MUSC, Charleston, SC 29425.

During WWI the Red Cross Nursing Service served as the reserve for the U. S. Army Nurse Corps. The first contingent of the American Army to sail for Europe in May 1917, were six American Red Cross base hospitals which were assigned to the British Expeditionary Forces. In 1914, three years prior to our entrance in the war, American Red Cross nursing units had been in Europe, helping the military and civilian populations in the warring countries.

In a 1917 speech to members of the nursing profession, Miss Clara D. Noyes, Director of the Red Cross Bureau of Nursing Service, said:

> As I stand facing you to-night, sister nurses, under the shadow of war, we know not what we as nurses shall be called upon to do. We know, however, that our Red Cross Nursing Service exists but for one purpose, — the reserve of the Army and Navy Nurse Corps in time of war. You may be called upon to give fully, to make great personal sacrifices, but we know you are prepared, we know that you are ready, we know that we can depend upon you to carry the spirit of Red Cross service, as well as its banner, wherever our Army and Navy may be sent, whether to the Pacific or Atlantic coasts, to the cantonments, to the frontiers of France or Russia, or to far-distant Mesopotamia. It must be written upon the pages of history for all time that our Red Cross nurses were prepared, that in this war our soldiers at least were not neglected and that they were properly nursed.

By November 11, 1918, the U. S. Army Nurse Corps totaled the largest body of professional women ever mobilized for patriotic services.

Betty Newsom
The Waring Historical Library

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Alliance Page

SCMAA PHYSICIANS FAMILY SUPPORT

THINKING CARING ACTION

Medical societies and auxiliaries/alliances have realized it is valuable to have a support network for medical families. A network such as this can serve in many areas — child care, chemical dependence, grief, malpractice, mental illness, aging, long-term illnesses, marital problems, problems with children. Support does not have to be only in problem areas — support can recognize contributions, birthdays, births. The South Carolina Physicians Family Support Committee is basically divided into two areas.

Kaye Borgstedt (Mrs. M. E.) is the overall chairman and works directly with SCMA Physicians Advocacy and Assistance Committee. Jo Huff (Mrs. Rouse) is the co-chairman and sends personal condolence notes, birthday cards to past state auxiliary presidents, and notes of congratulations. Individual committees in county chapters have been very responsive, especially during the time of deaths. This is one of the main strengths of this state committee — emphasizing the need for these local groups to become and to remain active. As of November 1, 1993, Jo has sent 27 birthday cards with a personal note to past state presidents; has written the spouse or son of 14 deceased physicians; wrote four physicians' families upon death of a family member (not the physician); and has sent six notes of congratulations: honors, retirement, births. The staff of the SCMA office has been very helpful and prompt in notifying the co-chairman of the names of deceased physicians.

Another purpose of SCMAA Physicians Family Support is to work closely with the SCMA committee in trying to insure support and help for physicians' families who are experiencing concerns and problems due to some type of impairment.

The physicians have a statewide committee which meets quarterly. In addition, they have divided the state into "treatment/intervention" regions. Regional meetings are held frequently and they sponsor weekly Caduceus (Medical AA) meetings. The SCMAA Subcommittee of Physicians Family Support is structured to parallel the SCMA Committee.

SCMAA Subcommittee goals for the 1993/1994 year are: (1) maintain and strengthen membership in the four "Caduceus-alanon;" (2) encourage more spouses to participate with the physicians in their quarterly meetings; (3) continue educational efforts to make resources known; (4) continue to meet with and participate with the physicians' group; and (5) provide training for new members interested in becoming a member of a regional treatment team.

Most requests this year have been calls concerning support for families when the physician has a mental illness. Discussions have been initiated to organize more help in this area.

If you or anyone in your family is "hurting" or is concerned about a family member, if you have questions or needs, and/or if you would like to be a part of this group, please contact Cathy Boland at SCMA Headquarters, 1-800-327-1021, or Kaye Borgstedt (Mrs. M. E.) at 1-534-2585. We care and are ready to act on our caring. Remember, information is kept in a confidential manner.

Kaye Borgstedt, Chairperson
Jo Huff, Co-Chairperson

INDEX TO VOLUME 89: 1993

AUTHORS

Addy, Cheryl L., Ph. D. ...71
Allen, William P., M. D. ...351
Alston, Sidney G., M. D. ...475
Austin, R. Marshall, Ph. D ...323
Bailey, Melinda, M. D. ...111
Barkowitz, Daniel Tobias ...20
Baron, Paul, L., M. D. ...323
Bell, Thaddeus J., M. D. ...385
Bessinger, C. D., Jr., M. D. ...451, 572
Bissada, Nabil K., M. D. 435
Bonner, Walter, M. D. 235, 237
Boyd, Robert E., M. D. ...240
Brackett, Newton C., Jr., M. D. ...415
Brady, Kathleen, T., M.D., Ph. D. ... 490
Bromberg, Jonathan S., M.D., Ph. D. ...111
Brothers, Thomas E., M. D. ...67
Brown, Juan A., M. D. ...427
Bryan, Charles S., M.D. ...307, 349
Bryan, Donna H. ...35
Bucci, Michael N., M. D. ...131
Burr, Wayne M., B. S. ...67
Cofer, Joseph B., M. D. ...111
Conroy, Joanne, M. D. ...111
Crawford, Fred A., Jr., M. D. ...111
Curry, Jane Guignard ...31
Derrick, Fletcher C., M. D. ...559
Dowda, Marsha, M. S. P. H. ...371
Ebersole, James B., M. D. ... 302
Eleazer, G. Paul, M. D. ...387
Elliott, Bruce M., M. D. ...67
Epstein, Stephen M., M. H. S. ...293
Faulkner, Larry R., M. D. ...465
Fitts, Charles T., M. D. ...111
Fitzgerald, Richard N., M. D. ...279
Galbraith, Robert M., M. D. ...111
Gates, Christopher., E., M. D. ...323
Goudelock, William J., M. D. ...449
Gould, Warren L., M. D. ...279
Hagerty, Richard C., M. D. ...279
Harmon, Gerald E., M. D. ...137
Heins, Henry, M. D. ...35
Hinnant, C. William ...559
Hoppmann, Richard A., M. D. ...261
Hornung, Carlton A., M. P. H., Ph.D. ...88, 302
Hsiao-Lung Lui, Judy M. D. ...273
Jenrette, Joseph M., III, M. D. ...333
Johnson, Craig C., M. P. H., M. S. P. H. ...293
Jones, Celeste Tiller, J. D. ...439
Jones, Jeffrey, M.D., M. P. H. ...365
Kaczmarek, Anthony, M. D. ...435
Keisler, David, M. D. ...302
Lanham, Janice, B. S., R. N. ...131
Lee, J. Diane ... 293
Legerton, Clarence, III, M. D. ... 251
Long, Saundra B., B. A. ...131
Lydiard, R. Bruce ...490
Macera, Caroline A., Ph. D. ...71
Marshall, Ian Y., M. D. ...435
Martin, Margaret, Ph. D. ... 293
Martin, Maxine Smith., Ed. D. ...15
McFadden, John A., M. D. ...565
McLeon-Bryant, Steve, M. D. ...475
Michels, Philip, J., Ph. D. ...88, 302
Milling, Robert N., M. D. ...463
Muneta, Ben, M. D. ...365
Newsom, Elizabeth Young ...20
O'Brien, Paul H., M. D. ...333
Pasternack, Fred L., M. D. ...137
Pate, Russell R., Ph. D. ...371
Phillips, Leigh, M. D. ...279
Philyaw, Doris B. S., R. N. ...131
Pitre, Brian R., M. D. ...333
Pozsik, Carol J., R. N., M. P. H. ...71
Powell, Frank M., Ph. D. ...387
Rajagopalan, P.R., M. D. ...111
Rames, Laura J., M. D. ...475
Reed, Frederick E., Jr., M. D. ...377
Rheney, John W., Jr., M. D. ...450
Richter, Donna L., Ed. D. ...71
Roberts, Walter J., Jr., M. D. ...45, 393
Robinson, Jacob G., M. D. ...67
Ryan, Cass, Ph.D., R. D. ...273
Santos, Alberto, B., M. D. ...465, 475, 485
Sasser, Charles G., M. D. ...343
Schurig, Samuel H., D. O. ...137
Seigler, Robert S., M. D. ...83
Sheridan, David, M. D. ...88
Sonne, Susan, Pharm. D. ...490
Sy, Francisco S., M. D., Dr. P. H. ...71
Timbo, Babgaleh B., M. D., Dr. P. H. ...71
Updike, Jan, M. D. ...88
Wall, Robert T., M. D. ... 279
Ward, Dianne S., Ed. D. ...377
Ward, James G., Jr., M. D. ...51
Wheeler, Fran C., Ph. D. ...365
Williams, Arthur, V., Jr., M. D. ..119, 415
Williams, Mark R., M. D. ...333
Williams, Stephen P., J. D. ...583
Wilson, Fred, M. D. ...111
Worsham, Frederick, C., M. D. ...279
Worthington, Curtis W., Jr., M. D. ...7, 9, 49, 52
Yates, James W., Jr., M. D. ...329
Zealburg, Joseph J., M. D. ...485

ORIGINAL SCIENTIFIC ARTICLES

Acute Renal Failure: Pathology and Prevention—*Arthur V. Williams, M. D.* ...119

Anterior Cervical Diskectomy and Fusion in a Community Hospital Setting—*Michael N. Bucci, M. D., Janice Lanham, B. S., R. N., Saundra B. Long, B. A., Doris Philyaw, B. S., R. N.* ...113

Bacterial Tracheitis: Recognition and Treatment—*Robert S. Seigler, M. D.* ...83

Combined Modality Therapy in the Treatment of Carcinoma of the Anus at the Medical University of South Carolina—*Paul H. O'Brien, M. D., Mark R. Williams, M. D., Joseph M. Jenrett, III, M. D., Brian R. Pitre, M. D.* ...333

Continent Urinary Diversion and Bladder Substitution—*Nabil K. Bissada, M. D., Ian Y. Marshall, M. D., Anthony Kaczmarek, M. D.* ... 435

Diagnostic Office Arthroscopy—*James W. Yates, M. D.* ...323

Endoscopic Carpal Tunnel Release: What's New in the Treatment of Carpal Tunnel Syndrome—*John A. McFadden, M. D.* ...565

(The) Etiology and Treatment of Venous Stasis Ulcers—*Wayne M. Burr, B. S., Bruce M. Elliott, M. D., Jacob G. Robison, M. D., Thomas E. Brothers, M. D.* ...67

Essential Hypertension: Historical Perspective, Mechanisms, and an Approach to Treatment—*Arthur V. Williams, Jr., M. D., Newton C. Brackett, Jr., M. D.* ...415

Laparoscopic Applications in Adult and Pediatric Urology—*C. William Hinnant, M. D., Fletcher C. Derrick, M. D.* ...559

Liver Transplantation in South Carolina—*Joseph B. Cofer, M. D., Robert M. Galbraith, M. D., Melinda Bailey, M. D., Jonathan S. Bromberg, M. D., Ph. D., P. R. Rajagopalan, M. D., Charles T. Fitts, M. D., Joanne Conroy, M. D., Fred Wilson, M. D., Fred A. Crawford, Jr., M. D.* ...111

Management and Treatment of Complicated Cases of Basal Cell Carcinoma—*Richard C. Hagerty, M. D., C. Frederick Worsham, M. D., Leigh Phillips, M. D., Warren L. Gould, M. D., Robert T. Wall, M. D., Richard N. Fitzgerald, M. D.* ...279

Management of Ventilation Tubes: Preventing Premature Extrusion—*Juan A. Brown, M. D.* 427

Opportunities for Enhanced Cervical and Breast Screening Referral in Charleston County—*R. Marshall Austin Ph. D., Paul L. Baron, M. D., Christopher E. Gates, M. D.* ...323

(A) Strategic Approach for Pain Management in Cancer Patients—*Charles G. Sasser, M. D.* ...343

Tuberculosis and AIDS in South Carolina: A Case-Control Study—*Francisco S. Sy, M. D., Dr. P. H., Babgaleh B. Timbo, M. D., Dr. P. H., Cheryl L. Addy, Ph. D., Donna L. Richter, Ed., D. Caroline A. Macera, Ph. D., Carol J. Pozsik, R. N., M. P. H.* ...71

Vitamin D Deficiency Found in the Diet of the Elderly in South Carolina—*Cass Ryan, Ph. D., R. D., Judy Hsiao-Lung Lui, M. D.* ... 273

SPECIAL ARTICLES

Criminalization of Health Care—*Celeste Tiller Jones, J. D.* ...439

(The) Effect of a Physician Education Program on Hospital Length of Stay and Total Patient Charges—*Craig C. Johnson, M. P. H., M. S. P. H., Margaret Martin, Ph. D., Stephen M. Epstein, M. H. S., J. Diane Lee* ...293

Factors which Discriminate Rural and Urban Family Physicians Practicing in South Carolina—*Philip J. Michels, Ph. D., Carlton A. Hornung, M. P. H., Ph. D., Jan Updike, M. D., David Sheridan, M. D.* ...88

(The) Physician's Armchair Guide to Advance Directives—*Stephen P. Williams, J. D.* ...583

Rebuilding a Hospital in a Developing Country—*Gerald E. Harmon, M. D., Samuel H. Schurig, D. O., Fred L. Pasternack, M. D.* ...137

Reflections on "Soul" and Medical Art—*C. D. Bessinger, Jr., M. D.* ...572

Report of the Interim Meeting of the AMA—*Walter J. Roberts, M. D.* ...45

Report of the SCMA Delegation to the AMA Annual Meeting—*Walter J. Roberts, Jr., M. D.* ...393

Training Family Physicians: A Case Study—*James B. Ebersole, M. D., David Keisler, M. D., Philip J. Michels, Ph. D., Carlton A. Hornung, Ph. D., M. P. H.* ...302

SPECIAL ISSUES

Current Issues in Psychiatry, Part I

Guest Editor: *Robert N. Milling, M. D.*

Introduction—*Robert N. Milling, M. D.* ...463

Community Psychiatry in South Carolina: Current Status and Future Directions—*Larry R. Faulkner, M. D., Alberto B. Santos, M. D.* ...465

Trends in Public Psychiatric Inpatient Care in a General Hospital—*Laura J. Rames, M. D., Steve McLeod-Bryant, M.D., Sidney G. Alston, M. D., Alberto B. Santos, M. D.* ...475

Mobile Crisis: Comprehensive Emergency Psychiatry for the Future—*Joseph J. Zealburg, M. D., Alberto B. Santos, M. D.* ...485

Treatment and Research Issues: Bipolar Affective Disorder and Substance Abuse—Kathleen T. Brady, M. D., Ph. D., Susan Sonne, Pharm. D., R. Bruce Lydiard, Ph. D., M. D ...490

Rheumatology in South Carolina, Part 1

Guest Editors: *E. Carwile LeRoy, M. D*
Richard A. Hoppmann, M. D

Introduction—*Walter Bonner, M. D.* ... 235

Gout: Modern Management of an Ancient Malady—*Robert E. Boyd, M. D.* ...240

(A) Help for Painful Osteoarthritis of the Knee: "Doctor, you sure know where to mash."—*Walter Bonner, M. D.* ...237

Rheumatoid Arthritis—*Clarence W. Legerton, III, M. D.* ...251

Rheumatology in South Carolina, Part 2

Guest Editors: *E. Carwile LeRoy, M. D*
Richard A. Hoppmann, M. D

Fibromyalgia—*Kathleen P. Flint, M. D.* ...511

Lupus and its Management—*Duncan M. Fagundus, M. D., E. Carwile LeRoy, M. D.* ...516

Diagnosis and Management of Common Tendinitis and Bursitis Syndromes—*Richard A. Hoppmann, M. D.* ...531

Raynaud's Phenomenon and Connective Tissue Diseases—*Philip A. Waller, M. D., E. Carwile LeRoy, M. D.* ...536

Physical Fitness in South Carolina

Guest Editors: *Joan Altekruse, M. D.*
Senator Warren K. Giese

Physical Activity and Associated Risk Factors in

SouthCarolina—*Fran C. Wheeler, Ph. D., Ben Muneta, M. D., Jeffrey Jones, M. D., M. P. H.* ...365
Physical Activity Behavior in South Carolina Youth—*Russell R. Pate, Ph. D., Marsha Dowda, M. S. P. H.* ...371
Youth Health - The Key to Lifelong Fitness and the Challenge to Health Care in the Next Century—*Frederick E. Reed, Jr., M. D., Dianne S. Ward, Ed. D.* ...377
Physical Fitness for Adults – A Commentary—*Thaddeus J. Bell, M. D.* ...385
The Need for Physical Activity in Older Adults—*Frank M. Powell, Ph. D., G. Paul Eleazer, M. D.* ...387

South Carolina's Pioneer Women Doctors
Guest Editors: *W. Curtis Worthington, Jr., M. D.*
Elizabeth Young Newsom
Introduction—*W. Curtis Worthington, Jr., M. D.* ...7
Psychiatrist and Humanitarian Sarah Campbell Allan (1861-1954): South Carolina's First Licensed Woman Physician—*W. Curtis Worthington, Jr., M. D.* ...9
Dr. Lucy Hughes Brown (1963-1911) A Pioneer African-American Physician—*Maxine Smith Martin, Ed. D.* ...15
Portrait of a Woman Doctor: Love Rosa Hirschmann Gantt "Blackwellian" or "Jacobian"?—*Daniel Tobias Barkowitz, Elizabeth Young Newsom* ...20
Jane Bruce Guignard, M. D.: 1876-1963—*Jane Guignard Curry* ...31
Hilla Sheriff, M. D.: 1903-1988 First Lady of Public Health—*Henry Heins, M. D., Donna H. Bryan* ...35
"That Crazy Anne Austin" Anne Austin Young, M. D. 1902-1989—*James G. Ward, Jr., M. D.* ...41
Four Additional Trailblazers of Interest—*W. Curtis Worthington, M. D.* ...49

EDITORIALS
Building a Community-based System of Mental Health Services—*Joseph J. Bevilacqua, Ph. D.* ...494
(The) Changing Image of Peer Review as Relates to the Physician—*John W. Rheney, Jr., M. D.* ... 450
(The) Courage to Ration—*Charles S. Bryan, M. D.* ...307
(A) Dialogue for the Management of Common Musculoskeletal Disorders—*E. Carwile LeRoy, M. D.* ...546
(The) Doctor-Patient Relationship—*Charles S. Bryan, M. D.* ...149
Dr. Weston—*Charles S. Bryan, M. D.* ...349
Exercise as a Clinical Tool—*Joan M. Altekruse, M. D., Dr. P. H.* ...397
Lacrimae Rerum—*C. D. Bessinger, Jr., M. D.* ...451
Neural Tube Defect Prevention-The Folic Acid Story—*William P. Allen, M. D.* ...351
Laparoscopic Applications in Adult and Pediatric Urology—*Kevin P. Killeen, M. D., Daniel A. Shames, M. D., Stanley H. Greenberg, M. D.* ...594
Physical Activity in South Carolina—*Sen. Warren K. Giese* ...399
Rheumatology in South Carolina—*Richard A. Hoppmann, M. D.* ...261
(The) Rock—*William J. Goudelock, M. D.* ...449
South Carolina Women in Medical School, 1892-1992—*W. Curtis Worthington, Jr., M. D.* ...52
Socialized Lumber—Francis B. Adams, Jr., M. D. ...596
(The) Soul of Medicine—*Charles S. Bryan, M. D.* ...598
Tasteful Advertising—*Charles S. Bryan, M. D.* ...148
What is Past is Prologue—*Charles S. Bryan, M. D.* ...221
When Democrats Last in the Dooryard Bloom'd—*Charles S. Bryan, M. D.* ...220
(The) White Plague Returneth—*Charles S. Bryan, M. D.* ...93

FEATURES
Alliance Page ...312, 357, 407, 456, 503, 551, 605
Auxillary Page ...57, 98, 153, 225, 265
Letters to the Editor ...96, 222, 308, 353, 498, 603
On the Cover ...56, 97, 150, 224, 264, 311, 354, 400, 452, 499, 548, 604
President's Page ...3, 63, 107, 159, 230, 271, 321, 363, 413, 461, 509, 557

ASSOCIATION
CME Calender ...143, 315, 445, 599
Erratum ...99, 147
For Your Benefit ...404
Gray Matter ...59, 91, 151, 201, 263, 309, 355, 401, 453, 501, 549, 611
Index to Volume 89 ...606
Information for Authors ...100
Physicians Care Network Newsletter ...403
Physician Recognition Award ...78, 268, 457
SCMA Newsletter ...27, 79, 127, 175, 247, 289, 337, 381, 431, 481, 527, 579
One Hundred Forty-Fifth Annual Meeting
  Introduction ...163
  Schedule of Events ...164
  Delegates and Alternates ...179
  Officer Reports ...182
  Committee Reports ..,191
  Report of the Editor ...198
  SCIMER Report ...199
  SCMA MIT Report ...199
  Report of the Executive Vice President ...200
  DHEC Report ...201
  DSS Report ...206
  Resolutions ...209
  AMA Special Guest ...210
  SOCPAC Luncheon Speakers ...213
  Featured Entertainment ...215
  Exhibitors ...218

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